

THE EXHIBITION LECTURES.

HENRY DE LA BECHE gave the second of the series of lectures at the Exhibition, at the Society of Arts on the 2d Dec. the subject being mining, quarrying, and metallurgical processes and products. The lecturer, in commencing, alluded to the benefits which had been derived from the Great Exhibition; but this must be borne in mind was only the means to a great end. Many of the specimens exhibited there were not to be considered as illustrating the general condition of our mines, as they were picked, and, though beautiful in themselves, taught no useful lesson. Pieces of rich ores are of frequent occurrence in localities where, from a want of their sufficient abundance, it would be useless to attempt any profitable working of them. Hence a collection of ores may often be most fallacious; indeed it is, unfortunately, somewhat too common to find specimens of ores shown as the ordinary products of mines, where they are really rarities, for the purpose of promoting the purchase of shares in such mines; the name for such specimens in Cornwall was *slooting stones*. It often happens, without the slightest intention of producing erroneous impressions, proprietors or agents, when required to transmit specimens of their ores, to show the quality of the produce being raised, send a good stone of ore, as it is technically termed; while, at the same time, the mine may be returning large profits by the working and dressing of comparatively poor ores. The collection of specimens of this nature is fallacious, and does not exhibit the real industry required or employed. The teaching influence proposed by a collection of ores is defeated, alike by both the causes above mentioned. Most important knowledge of its kind is sacrificed, and the public misled, by impressions received from gazing on a mass of glittering objects, instead of carefully considering the kind of mineral substances which really produce, by the industry of man, the metals so essential for his welfare and progress. Coal in mineral stratification, it may be said, is at the base; all mineral or fossil fuel is formed from vegetables. Anthracite has been produced artificially in Derbyshire. In general, mineral fuel from all parts of the world had not been so fully shown in the Great Exhibition; they had, however, had specimens from New Zealand and from the new settlement of Labuan, and as a maritime nation, it was of great importance to us to know the supplies we derive from thence for the purposes of steam navigation. In the Crystal Palace there had been sent several good specimens from Staffordshire, which were displayed outside the building; and here he must say that, considering the expense which had occurred from the transport of these huge masses, the proprietors of the collieries had shown great disinterestedness, and a willingness to aid in that which they thought would be beneficial to the human race in general. The produce of coal in Great Britain in round numbers might be taken at about 35,000,000 tons annually; of this only 2,700,000 were exported, the rest being reserved for domestic and industrial consumption in this country: the Office of Mining Records, attached to the Government School of Mines, would give the exact data. The copper smelting in this country absorbed great quantities of coal; ores were sent to those establishments from Chili and Peru by Cape Horn, and from Australia by the Cape of Good Hope, to be smelted. There were to be seen in the Exhibition illustrations from Northumberland and Durham, models of collieries, those showing likewise the method of ventilation, one in particular, that of Mr. NICHOLAS WOOD, was highly deserving of notice. Though much good would result from the appointment of Government Inspectors of Mines, much more would accrue from the education of the miner, which would protect him from the consequences of his own carelessness. Among the articles connected with this department was a model of the opening doors of the Foxhole Colliery, near Swansea; this arrangement was only known there, yet by being shown at the Exhibition had become diffused, and now men's lives had no more occasion to be trusted to the inattention or recklessness of boys. Was not this a benefit? Mr. ROSS, of Abercromby Colliery, showing shafts had used the method of firing by electricity several blasts simultaneously, instead of only one. In many of the coal districts great waste of that valuable fuel had occurred on account of the dust, which could not be rendered available. This had given rise to the introduction of patent fuel. He believed there were as many as 100 patents which had been taken out on this subject—one of these which he knew was WARLICH's; this, after being glued together with coal tar, or some other matter of like nature, was coked in ovens, and found efficacious. On the Chemin de Fer du Nord they had been much incommoded by a coal which injured their locomotives, and which was altogether unfit for use; to remedy this they had recourse to jiggling (an operation known to all our readers), by which means it was freed from the nitric particles, and rendered fit for use. At Newcastle they were now erecting works to carry out the sifting of coal. Some specimens were sent from mines which did not require dressing. The Barra Barra Mines had sent a good series; some of the malachite there, which had been crushed under the hammer, if produced in Russia, would have been used in works of art. Sweden and the United States had sent some good specimens of iron. The collection of iron ores and clays exhibited by Mr. BLACKWELL, of Dudley, was one of the most complete ever seen. The produce of our iron was to the value of about 20,000,000 annually. From the combination of iron, coal, and limestone—the first being the metal, the second the fuel, the third the flux—it was impossible in this branch of industry to compete with us. [A diagram of the district round Merthyr Tydfil was here shown and demonstrated.] Belgium possessed these advantages, but no other state. Collections could not be formed in a day; it had taken them 16 years to form their collection in Jernynstreet, though they had the co-operation of the ablest men in the empire. The Ebbw Vale Company had displayed a good collection. The same may be said of the silver from Kongsberg, in Norway, and the lead from Grimsington, the property of the Duke of Devonshire.

The lecturer then alluded to the theory of mineral veins, illustrating his by a diagram of East Wheal Crofty. In order to illustrate the dressing, they had a model of the Tywarhaye Mines, which had been placed there partly at the expense of H.R.H. the Duke of Cornwall; nor must the model of the water-wheel of the Devon Great Consols be forgotten. Although the copper in Cornwall did not average more than 8 per cent, yet, when manufactured, it was about two-thirds of that raised in the world. The Ebbw Vale Company had shown a model for utilising gas in smelting; nor were the Low Moor forgetful of their reputation. Nova Scotia and Canada had likewise sent some good ores. The Austrian series was very fully exemplified. Some of the thin sheet-iron from Bohemia had been styled Bohemian paper. A spirited proprietor had seen this, and thought it might supply a deficiency in button-making; though the iron produced was not equal to that, yet it came very near, and there was no doubt in a short period we should be able to attain the same perfection. The specimens from Sweden were not so good as might be expected from the character of her iron; nor had Russia furnished so good a series, while from France there was but little. The Siegen iron, from Nassau, was worthy of remark; and here he must say no state was so well represented in minerals as the little Duchy of Nassau. Copper they had from Australia, Swansea, the Zollverein, Austria, and Norway. Of lead there was no great display; but if any man deserved the council medal it was Mr. PATTERSON, for his mode of desilvering lead. Previous to his discovery nothing under 20 ozs. to the ton would pay, but now it was found that 3 ozs. were remunerative, consequently many mines which would have been abandoned were now in active employment. With the exception of the zinc from New Jersey, there was little of that metal, except from the Vieille Montagne Company. We had abundance of mines of this metal in this country, but these properties appeared to be so well arranged, that they supplied nearly all Europe. They sent specimens from the ore to the highest works of art; they employed yearly 2640 labourers, and had a make of 11,500 tons in the year 1850. Of tin there were some good samples. A process of separating wolfram (tungstate of iron) from the Drake Wells Mine, by Mr. OXLAND, was described. The Messrs. BOLITHO had likewise contributed an elaborate model of tin smelting-works, together with all the processes of tin dressing and smelting. From the Allenhead Mines a large mass of silver was exhibited, as likewise gold from Reichenstein, in Silesia. These mines had been abandoned for about 500 years, on account of their poverty; and here the application of science might be seen, by a process introduced by Prof. PLATTNER. They had been made profitable, and here he must do Dr. PERCY the justice to say that at the meeting of the British Association for the Advancement of Science, held at Swansea in 1848, he had proposed the same theory. Iridium, palladium, osmium, and rhodium had been well illustrated by Mr. PERCIVAL

JOHNSON. Many of the old mining schools, such as Saxony and the Harz, had contributed nothing; nor had South America, unless might be mentioned the gold and copper from Chili. In steel, the Sheffield department was very extensive. Messrs. TAYLOR and VICKERS had an elaborate model, showing all the processes as well as the works. The best exhibition of brass in its various stages had been from France, exhibited by an eminent manufacturer there. English alloys were presented by Mr. MORRIS STIRLING, and Mr. JORDAN, of Manchester. In plumbago, when the Borrowdale Mines had somewhat fallen off, and they were at a loss to supply the deficiency, Mr. BROCKEDEN had taken out a patent to concentrate the dust, which had been successful; and this likewise they had an opportunity of observing. A great collection of building stones had been exhibited by Mr. FARMAN. The supply of granites and marbles was immense, and they had even a block of marble from South America. China-clay and slate were well displayed; and the grinding and sharpening stones, from the hone to the grindstone, as exhibited by Mr. MEIRIG, of Leadenhall-street, had attracted the attention of the jurors, so perfect a collection never having before been seen. They must remember that, while there were many deficiencies, there were still many great illustrations. The object of their realisation was truth, and it would show, not only in mines, but in other departments, how beneficial such a school would be for the training of industrial knowledge. In mining especially, it would instruct the man who possessed mineral wealth of the value of his property, and the speculator, who had higher views than trafficking in shares, of the nature of the investment he embarked in. Capital heedlessly thrown away, or recklessly speculated, was a national loss, and the great lesson which he trusted they had learnt would encourage them to study, and not look upon the Exhibition now passed as a show, but as a beacon to warn them from past dangers, and a guide to instruct them for the future.

At the close of the lecture, the Earl of GRANVILLE proposed a vote of thanks to Sir HENRY DE LA BECHE for the useful and important lecture he had delivered; at the same time stating, that the Royal Commissioners were under great obligations for the assistance they had received from all classes connected with the department which was more particularly under Sir HENRY DE LA BECHE'S supervision.

[We had prepared the above report for publication at the time the lecture was delivered; but its insertion has been prevented by pressing claims on our space.]

THE FREMONT ESTATE.—The question of the validity of the leases of the Californian gold companies having been lately raised, has rendered the subject a matter of great importance and interest to the British public; and while still open to dispute cannot but be injurious to the interests of Colonel Fremont, and tend to retard the investment of capital to work the auriferous deposits on his large estate. It would appear that some of these leases were originally granted by the Colonel to certain parties on express conditions. These, it appears, have not been fulfilled, and, consequently, are now declared forfeited or forfeitable. This the holders are unwilling to allow, and consider they are yet their *bona fide* property, and, as such, several companies have been found to work them. Within the last month the dispute has waxed rife between the contending parties, and a pamphlet has lately issued from the press by the Hon. David Hoffman, who states that he alone is the authorised agent in Europe for the leasing of Colonel Fremont's property, and in support of his assertions, which wear the impress of truth, produces a letter from the Colonel of the recent date of the 19th Oct., in the present year. The companies which he has leased are No. 1 and 2 Mineurs Belges, *en commandite*; the Nouveau Monde, now about to commence work under the superintendence of Messrs. Taylor and Sons, the staff of which left by the *Madway* a few days since; the Golden Mountain (of which Mr. Andrew Smith is the lessee and engineer); the Hoffman and Elvendo Company; the Alto California, three other companies not named, and about ten others who have contracts, but whose agreements have been delayed, and they are to come out according to the date of their respective contracts. The mineral land granted will be about 17,000 by 600 acres, and about 2400 acres of agricultural land. If the statements of Mr. Hoffman be correct—and we cannot suppose he would deliberately pen untruths—certainly a great want of caution has been shown on the part of some of the English speculators, and a large amount of delusion practised on their gullibility. We would certainly recommend all those who have been and are likely to be interested in Californian enterprise to give an attentive perusal to Mr. Hoffman's pamphlet. We do not in any way set ourselves up as judges or arbitrators on the subject matter at issue; we profess to know nothing from our own knowledge, but rely on the information we derive from others, obtaining that from as authentic sources as lay within our means. Mr. Hoffman has stated his case plainly, and with no desire to shirk the question; by his own dictum he now must stand or fall. Grave accusations are made, which, if not refuted, will be implicitly believed. It, therefore, behoves those thus inculpated, for their own honour and credit, to give, if they can, an indignant denial to the statements contained therein. Bare assertion will not, however, suffice; a clear direct negative, supported by proofs, is now required to satisfy the British public that they have not been duped, either from carelessness or knavery. Mr. Hoffman's pamphlet is now before the public, and we must confess we await with some anxiety the rejoinder to it; we should then be better able to judge for ourselves. At present we dismiss the subject, being of opinion that it is a pretty quarrel as it stands.

MINE INSPECTORS.—Mr. Herbert Mackworth, the inspector appointed in place of Mr. Blackwell, is, we understand, about 27 years of age, and a nephew of Sir Digby Mackworth, Bart.; he was for a time employed as an engineer on some of Hudson's lines of railway, and has subsequently been engaged in several collieries near Cardiff.

COLLIERY EXPLOSIONS.—There is perhaps no district of similar extent in any portion of the kingdom which has been the scene of such frequent disasters and involving so great a sacrifice of life as the tract of country comprised within a circuit of five miles of Rawmarsh. To go back only 10 years, we find that during this comparatively short period five accidents have occurred, by which an aggregate of 263 lives have been sacrificed. In July, 1841, for instance, 50 lives were lost at Masborough by the capsizing of a boat; in November, of the same year, 15 men and boys were killed by an explosion in Mount Osborne Coal Pit, Barnsley; in January, 1847, six lives were lost by an accident in the Darley Main Colliery, Worsborough Dale; in the following March 73 men, working in the Oaks Pit, near Barnsley, met with almost instant death from an explosion of fire-damp, the force of which was so terrific that stones were projected out of the shaft, which was 283 yards deep, to a height of about 40 yards into the air; in January, 1849, another explosion occurred at Worsborough Dale, and within two miles of the former one, by which 76 lives were lost; and, lastly, the explosion at Warren Vale, by which 50 human beings perished. Almost all these calamities have arisen from fire-damp explosions.

EXTINCTION OF A COAL MINE FIRE.—The fire in Lord Bradford's coal mine at Great Lever, near Bolton, which originated from an explosion of fire-damp a few weeks ago, has been extinguished by Mr. Gurney's system of filling the mine with choke-damp. The level where the fire existed is still very hot, but there is no appearance of the existence of fire. Search has been made for the bodies of the two unfortunate men who lost their lives by the explosion, but hitherto without success. A portion of their clothing, which they take off before commencing work, was found near the place where they were employed, but the bodies were not there, so that it is possible they may have perished in some of the old workings, while endeavouring to make their escape; or it may be that the bodies are covered, the roof of the mine having fallen in various places.—*Manchester Guardian*.

NATURAL GAS ON CHAT MOSS.—We published some particulars last week respecting this singular phenomenon, which we find still continues to manifest itself, and the following extract of a letter will be read with much interest:—"Barton Grange, Dec. 22.—About a fortnight ago I employed some miners to bore for water on that part of Chat Moss known by the name of Barton Moss Farm, held by Edward Evans and Co., about 100 yards from the Barton Moss station. For the first 16 feet the boring was through peat moss and moor substances; then came 2 feet of blue clay and 8 feet of red marl. The augur then entered a dry sand for about 6 in., when gaseous matter suddenly burst forth with a noise resembling the escape of steam from the safety-valve of a steam-engine. Having procured a long pole, we fastened a light to the end of it, and applied it to the gas as it escaped, which instantly caught fire, and burned with a flame 10 feet high, baffling all our efforts to extinguish it till we filled the bore full of water. In the process of boring it is necessary to use a tube, the size of the augur, to put into it. Having one of these tubes in diameter, I placed one end in the bore, and erected it perpendicular to a height of 35 feet. On a light being applied it instantly caught fire, and from its height above the trees it can be seen for many miles round. The color of the flame is a bright red, beautifully streaked at times with blue; but when the weather is foggy, it gives it a yellow appearance. The miners say it is the smell of fire-damp; but I cannot detect either smell or smoke. The heating power is great; but when confined in a small tube the illuminating power is small, and not at all resembling the flame from coal gas. It still continues to burn with the same vigour as at first, and we are making every preparation for applying it to the steam-engine instead of coals. The gas seems to be confined to a narrow space, as some years ago a bore was made about 100 yards to the north of this, and no gas was found; at that place the moss was about 18 feet deep, the marl about the same, and the rock was found without any sand between. I made another bore about 100 yards to the south, and found 23 feet of moss, a birch tree 1 foot thick, 2 ft. of blue clay, 16 ft. of red marl. The augur then entered a bed of gravel, from which flowed water to the height of 18 feet up the bore. As it is desirable to find water as near the house as possible, I am now boring about 50 yards from the first, and have already reached a depth of 35 feet, without finding any gas."

Original Correspondence.

C-BOOK—FOREIGN AND COLONIAL COMPANIES.

As we enter on any further disquisition as to the range of application of the "principle" of joint-stock partnership, on which the C-book is based, it may be as well to propose the definition from which I argue. In my I did intend to accept that of your correspondent, "Argus," *pro tanto*; substantially, with one slight exception, it was sufficient for the purpose before us, and for the present it will serve. Notwithstanding, even non-reflection, I cannot reconcile the deduction of his fourth paragraph with the terms of his premises. Mr. Abbot does not directly assert the same position stated by "Argus," but an *invento* to the same effect is distinctly alluded to with a note of exclamation. Mr. Abbot is, I believe, a Cornish writer, and I think it natural that his impressions should be favourable to the Cornish position which would afford special favour to the district in which he is personally interested. If I misconstrue his meaning, my apology must be the typical expression of dissent which this note of admiration implies; and I will not cordially coincide with him in the opinion, that statutory regulation will be not only advantageous but absolutely imperative, in order to prevent confusion and abuse in the future adaptation of this principle to the multitude of mining enterprises, which the present grand development of our mineral resources will probably call into existence. Such a measure should be strenuously urged at an early period of the next session, so as to include as many as possible of the new schemes under the C-book System.

In like manner I may incidentally observe that an explanatory statute ought to be obtained to declare whether or not foreign and colonial companies, "established" the first instance out of the United Kingdom, can subsequently "establish" themselves here without registration, under the 7 and 8 Vic. c. 110. The opinion of Sir Frederick Theiger, recently published by one of the Australian colonies, distinctly asserts the exemption of such companies. If the case were stated to counsel on that occasion, the opinion appears to my very humble judgment quite irreconcilable with the enactment in question. Assuming it was so stated, I must take the liberty of dissenting from the view of every able counsel. I think that if a company be at any time established in the colonies, or a foreign country, and maintain here a simple agency for the mere transmission of communications, or the receipt and payment of money, or other usual functions of agency,—impliedly permitted by the inch of Scotch companies having "an office or place of business in any part of the United Kingdom,"—then it would be clearly exempt. But, if there be Direction, or any section or branch of the company, with any administrative control whatever, then I contend there is an "establishment" within the purview of the statute, which imposes the obligation of registration. The decision of the late Sir James Wigram in the Dendro Valley (Winding-up) case well-considered judgment, and that adjudication, as I regard it, had expressive effect of declaring that foreign companies which had administrative powers were partnerships within the scope of the Winding-up Acts, notwithstanding on the ground of having "establishments" here; and by parity of reason, colonial projects stand in the same predicament. Other winding-up cases the same effect; but I do not recollect any that was so clearly argued and maturely adjudged as the one I have cited. As the *reductio ad absurdum* let us suppose that a party of promoters have a scheme to work a mine in Derbyshire, the very heart's core of the sphere of the statute, and are desirous to evade registration. If the opinion of Sir Frederick be law, there is nothing to prevent them forming a colourable establishment in California, the more convenient distance of Boulogne, and subsequently setting up a branch in London or Birmingham; and thereby they could leave to the public the burden for a remedy to secure his fees, or the requisite information for public security. For be it well remembered, that the character of the company subjects it to the obligation of registry is dependent, not in the *quo* of the industrial operation, but on that of an "establishment" in any part of the United Kingdom of Great Britain and Ireland, except Scotland (and, in respect to Scotch companies, including those having here a representative "office or place of business"), for any commercial purpose, or for the purpose of assurance (with certain exceptions). With great respect to Sir Frederick, I think the point is to be decided by this principle:—Is not a branch of a foreign or colonial commercial association, high administrative or controlling powers, an establishment for commercial purposes and for the purpose of profit? No rational mind, not even the most cautious casuist, can answer that in the negative. I can accept the opinion referred to only on the supposition that the case on which was given was insufficiently stated (I do not assume an intentional misrepresentation), or that Sir Frederick's practice being confined to common law, he had not the advantage of such close consideration of the Act as he proffers in Winding-up have imposed on counsel at the equity bar. He was the other, the public interest imperiously demands that the registrar should at once bring the question to an issue, and try whether such projects are not subject to his control. Otherwise, I must protest that the Registration Act is nothing but an obstruction and detriment to British enterprise, because this opinion is allowed to prevail, the exemption will become the general rule, and those projects whose promoters desire honestly to conform to the law registration, will be abandoned for those of alien origin.

This reservation is specially applicable to foreign schemes, whether "anonymous" or "anonymous": assuredly they deserve no favour, however we may link the errors of our colonial speculators. There are some which, to the characteristics of an establishment, profess to inaugurate here simply commission of agency. Now, if it be purely an agency, there can be no objection to the law stands to that course, recollecting, however, that no such general can be a protection to shareholders, as it must be ever dependent on the sign governing body. If the public choose to be at the mercy of foreign projects, we have nothing to say why they should not be under the penalty of an absolute fleeing—by no means an unfrequent result of placing English capital at the mercy of continental boards and alien honour, which it is unnecessary for me to illustrate from remote history. On the other hand, should there be the cover of the subordinate denomination the deception of virtual administrative facilities, then by whatever name it subsists, there can be no hesitation in pronouncing the office so constituted to be an establishment within the meaning of the Legislature, as the contrary would lead to an intolerable evasion of the law, which no tribunal in this country could recognise. You are well, no doubt, infer from all this that my crochets are the C-book. In candour I confess it; and my reason is, that I regard the Registration Act as wholly out of place, and inapplicable to present circumstances, and that the exemptions, such as Irish anonymous partnership, and the C-book Principle, should be urged to their fullest application where practicable. The 7 and 8 Vic. c. 110 would have been a blessing and safeguard to the community 30 years ago. Now its machinery is already obstructed and antiquated, and an insuperable obstacle to the development of commerce, until a new law is passed in pursuance of the recommendation of the report on partnerships, there is protection for the public by its securing full information and the responsibility of promoters. That object is better achieved by the C-book Principle in its strict application, which is more suited to the requirements of the times than the system to which it forms an exception. To adapt the law, as opposed to the abuse, of the privilege conferred on that constitution for partnerships concerned in the working of "mines, minerals, and gries," will be the direction of my further observations. I shall, in my next, on that subject, seek to establish my notion of the "principle," and point to certain deviations to be shunned, as also some provisions, consistent with a normal condition of the practice, which, for the true interests of the shareholders who may desire to protect themselves from imposition, extortion, oppression, or fraud, ought to be insisted on, either as original conditions in novelties, or as modifications of any existing regulations, which may be found deficient.—JURISCONSULTUS: Dec. 30.

ON GRANITE FORMATIONS, AND ELK'S-HORNS BECOMING TIN.

Small beg to thank your correspondent "John Bull" for his candid letter, and agreed to find he has no inclination to quarrel, as these things are much better discussed amicably, but to go into a lengthened statement again on the granitic question would be a waste of time, and I will only make a few short remarks. First, noticing that the two mines he named have been alluded to before were shown by others to be only a short distance from granite, and in a direct line between two granite formations, with reasonable grounds to suppose the granite is not half-a-mile under them. Secondly, in the two western counties the copper is in proximity to tin, which is not the case in Irish (Welsh copper mines, which caused me in my first discussion to confine myself to these counties.

I further to remind "John Bull" that I have no other interest in these discussions than to bring out facts to aid the "practicals"—every such fact being contribution to true science, and to obtain them I have travelled many a long journey. Nothing would give me more pleasure than to see "John Bull" endeavouring to vie with his scientific neighbours in bringing out valuable facts to aid those who labour in the deep and dark regions, exploring the secrets of Nature. Most practical men are aware all rocks differ in their constituent parts, to detect which "John Bull" has only to walk up to Tincroft Mine and examine the granite found there about the lodes, and go on to the old diluvial rocks of Carnmarth, where he will find a wide difference, and again Clogga on the south part where the tin is found, and the north part of the headland, and in every other place I have mentioned near where ores are discovered, and where not; but I think he errs when he says all Cornish mines would now the granites in every part of the world. There is not one in 50 of them who knows what geologists call *granite*; this knowledge would be valuable to them when obtained, and surely "John Bull" will not be so ungenerous as pointing out on this road to a true school where he can obtain useful and scientific information, to call on me to pay him for lost time and expense—abandoning him to his fate.

I now beg to call attention to the geological societies; these are valuable insti-

TABULAR AND STATISTICAL MATTER, WITH RETURNS OF METAL, ON DIVIDEND-PAYING MINES, FOR THE PAST YEAR—By WILLIAM HENRY CHILL, ESQ.

DEVONSHIRE AND CORNISH MINES.

No. Shares	Amount Paid.	Name of Mine.	Market Price.	Dividend per sh.	Total Amount	Metal.	Parish.	Purser or Sec.	Address.	System.	Dividend Payable.	Copper.	Tin.	Lead.	Total Amount of money.	Lease Granted.	Days.
5190	9 11 2	Alfred	164	1 17	9472	copper	Phillack	H. Noell	Hayle	Cost book	two months	2819	—	—	19,310 5 0	1850	1-10
4000	21	Bedford United	164	1 17	4600	copper	Tavistock	G. Kieckhefer	50, Threadneedle-street	ditto	ditto	1700	—	—	10,341 15 0	1841	1-15
100	12	Whitlock	210	15	1500	copper and tin	St. Just	S. H. James	St. Just	ditto	ditto	208	191	—	12,130 12 2	—	1-24
1624	18 9	Ballegarden	19	—	3247	tin	East Calstock	G. Carro	Penzance	ditto	ditto	—	—	—	—	1841	1-33
4000	21	Calstock United	41	4	1000	copper	East Calstock	R. H. Pike	50, Threadneedle-street	ditto	two months	7663	—	—	42,181 6 6	—	—
1000	15	Carn Brea	30	9	9000	copper and tin	Camborne	N. Vivian	Camborne	ditto	ditto	1850	87	—	12,009 12 9	1845	21
256	30	Condurow	100	2	512	copper and tin	Tavistock	J. Allen	Barge-yd., Bucklebury	Joint-Stock	ditto	18921	—	—	21,078 10 6	1845	21
1094	1	Devon Great Consols	280	40	40960	copper	Newlyn	E. Michell	Truro	Cost-book	ditto	—	—	—	46,734 0 0	—	1-13
128	50	East Wheal Rose	430	724	9280	lead	St. Austell	W. Brown	St. Austell	ditto	three months	—	198	—	5,101 0 0	—	—
10000	119	Great Polgooth	3	24	1100	tin	Breage	J. Clark	Helston	ditto	ditto	—	—	—	—	—	—
1024	100	Great Work	160	28	2976	tin	St. Pinnock	J. Watson	13, George-yard	ditto	three months	—	—	735	9,012 0 0	—	—
160	24	Harodoff	4	1	384	lead	St. Just	John Rodda	Penzance	ditto	two months	1839	—	—	7,250 5 6	1849	21
1000	17	Lewis	140	10	1500	copper and tin	St. Erth	P. Stainby	Salvador House	ditto	three months	—	337	—	16,715 16 8	—	—
512	5	Mary Ann	48	9	4608	lead	Menheniot	P. Clymo, Jun.	Liskeard	ditto	two months	5914	—	1263	20,880 0 0	1845	21
300	45	North Pool	150	45	9000	copper and tin	Pool	H. Borrow	Truro	ditto	ditto	4548	—	—	21,078 10 6	1845	21
140	10	North Rose	190	20	4270	copper	Camborne	T. Hutchinson	Camborne	ditto	ditto	—	—	—	25,844 12 6	—	1-15
6000	18	North Rose	7	3	1500	copper and tin	Illogan	J. Pascoe	50, Threadneedle-street	ditto	—	2630	—	—	15,252 13 8	—	1-15
260	20	Providence Mines	20	3	1680	tin	Uny Lelant	S. Higge	Penzance	ditto	four months	6986	—	198	9,183 7 0	—	—
138	25	Par Consols	600	40	8120	copper	St. Blazey	W. Davis	St. Blazey	ditto	—	—	—	—	44,353 3 0	—	—
1180	31	Paran St. George	40	12	2080	copper and tin	Ferranabuloe	E. Way	Newport, Isle of Wight	ditto	—	3753	—	—	14,375 4 0	—	1-20
200	80	Phoenix	240	—	3000	copper and tin	Linkingthorne	T. Cross	Liskeard	ditto	four months	2709	—	—	20,351 18 0	1844	21
248	160	South France	180	42	10416	copper	Illogan	Com. of Man	Redruth	ditto	ditto	2427	—	1046	14,328 7 0	—	1-15
256	103	South France	130	—	4224	copper	Redruth	T. Michell	Redruth	ditto	ditto	5442	—	—	33,324 7 6	1850	21
256	103	South France	380	60	15360	copper	Illogan	W. Richards	Redruth	ditto	ditto	2918	—	—	20,208 0 0	1845	21
256	8	South Caradon	112	15	3840	copper	St. Cleer	T. Kitterow	Liskeard	ditto	three months	—	286	—	12,235 6 4	—	1-18
94	164	St. Ives Consols	80	13	1232	tin	St. Ives	J. Millet	Penzance	ditto	four months	—	—	—	14,261 0 8	—	1-15
1084	20	Tremayne	24	31	3584	tin and copper	Gwynep	R. R. Michell	Liskeard	ditto	three months	—	—	—	19,339 8 0	1844	21
120	130	Trelawny	47	44	2044	lead	Menheniot	J. Philip	Redruth	ditto	two months	2459	—	—	14,734 0 0	—	1-15
120	130	Trelawny and Barrow	310	564	6780	copper	Gwynep	Williams & Son	Redruth	ditto	ditto	—	—	—	—	—	1-15
120	130	Trelawny and Barrow	12	24	300	copper	Gwynep	W. Richards	Redruth	ditto	ditto	—	—	—	—	—	1-15
512	5	Trelawny	6	2	1024	lead	Menheniot	J. Philip	Liskeard	ditto	ditto	—	—	—	—	—	1-15
100	95	Trumpet Consols	110	5	500	tin	Wendron	R. R. Michell	Marazion	ditto	ditto	—	200	414	6,627 12 6	1846	21
200	100	United Mines	85	24	500	copper	Gwynep	Com. of Man	Gwynep	ditto	two months	—	—	—	10,720 5 7	—	1-15
256	20	West Caradon	115	164	4224	copper	St. Cleer	E. A. Crouch	Liskeard	ditto	ditto	4108	—	—	30,325 17 0	1840	21
256	8	West Buller	550	70	17900	copper	Redruth	S. & R. Davey	Redruth	ditto	ditto	5747	—	—	33,913 17 6	1849	21
198	107	Wheal Seaton	190	24	4752	copper	Camborne	T. H. Tilley	Redruth	ditto	ditto	5471	—	—	24,708 7 6	—	1-14
124	25	Wellington	80	124	3800	tin	St. Ives	L. Pearce	Penzance	ditto	ditto	—	354	—	15,812 7 10	1845	21
1024	25	Wheal Seaton	44	1	768	copper and tin	Ferranabuloe	R. R. Michell	Marazion	ditto	two months	—	—	—	1,946 13 6	—	1-18
194	10	Wheal Seaton	11	12	1920	tin	St. Just	R. Pearce	Penzance	ditto	three months	—	—	—	—	—	1-18
119	10	Wheal Margaret	130	14	1868	tin	Uny Lelant	W. S. Arthur	Penzance	ditto	ditto	—	—	—	—	—	1-24
312	10	West Providence	110	5	2460	tin	St. Erth	R. R. Michell	Marazion	ditto	ditto	189	139	—	12,361 6 7	1841	21
128	120	Wheal Friendship	110	12	1836	copper	Dowon	J. Taylor & Sons	Queen-st. place, London	ditto	—	—	—	—	5,654 9 4	—	1-18
430	83	Wheal Lode	83	8	3440	tin	Wendron	W. Carro	Falmouth	ditto	three months	—	—	—	16,408 9 0	—	—
5000	3	Wheal Golden	8	4	3200	silver-lead	Ferranabuloe	J. D. Young	2, New Broad-street	ditto	—	—	—	620	8,060 0 0	—	—
WELSH.																	
1248	—	All y-Crib	9	2	468	silver-lead	Talybont	Francis & Co.	Crown-court	ditto	—	—	—	—	3,189 0 0	—	1-14
100	75	Llwynn	650	105	10500	lead	Cardigan	J. Taylor & Son	Queen-st. place, London	ditto	—	—	—	—	33,521 0 0	—	1-10
128	60	Cwmystwith	100	5	640	lead	Cardigan	ditto	ditto	ditto	—	—	—	—	8,260 0 0	—	1-10
1000	24	Bryntal	12	5s	250	lead	Montgomery	J. H. Smith	Cornhill	ditto	—	—	—	423	4,332 0 0	—	1-10
IRISH.																	
8000	—	Wicklow	31	9 14	13500	copper	Wicklow	W. Cutler	43, Dame-street, Dublin	—	—	—	—	—	—	—	—
8716	14	General Mining Company	5	20 p. et.	12075	—	—	T. Maguire	3, Burgh-quay, ditto	—	—	—	—	—	—	—	—
SCOTCH.																	
8000	51	Black Craig	4	2s 6d	625	lead	Kirkcudbright	J. Watson	13, George-yard, London	Cost-book	—	—	—	665	6,369 0 0	1849	21
787	28	Kirkcudbrightshire	5	5s	1954	lead	ditto	T. Hackett	26, Birchin-lane, ditto	ditto	—	—	—	524	5,437 0 0	1846	21
FOREIGN.																	
12000	40	Cobre	34	7	84000	copper	Cuba	W. Leckie	26, Austinfriars, London	—	—	—	—	—	—	—	—
11000	15	St. John del Rey	20	3	33000	gold	Brazil	W. Routh	4, Folsom-house, York	—	—	—	—	—	—	—	—
20000	—	General Mining Assoc.	12	10s	10000	iron and coal	Nova Scotia	T. B. Frood	52, Old Broad-street, ditto	—	—	—	—	—	—	—	—
10000	24	Copland	44	5s	2500	copper, &c.	Chili	E. J. Cole	2, New Broad-street, ditto	—	—	—	—	—	—	—	—
2700	14	Marmato	12	2	3400	gold	New Granada	R. L. Jones	13, Austinfriars, ditto	—	—	—	—	—	—	—	—
					134,990												

MINING IN SOUTH AUSTRALIA—GEOLOGICAL FORMATION.

[FROM A CORRESPONDENT.]

There is no very high ground in the country. The ranges of hills are north and south; some of them are almost perpendicular, and the whole land has the appearance of being recently elevated from under water. The hills are mostly covered with ironstone, of which there is enough to supply the world with iron; but the rock generally is sandstone, in some places magnesian, in others micaceous. I may remark that mica is very abundant in this region. Some districts are composed of deposits of clay, soft in its nature, and varying in its colour—in some places white, in others red and blue. The range or run of most of the channels of ground is from north-west to south-east. The lodes, if such they may be called, run about north and south; in many places they rise above the surface several feet in height, and have the appearance of what are called in Cornwall dry stone hedges; such backs of lodes are generally composed of quartz, some of iron, and a few of copper ore. From the latter class of veins hundreds of tons of ore have been taken away, and in a great many places where these lodes appear large quantities of copper ore have been discovered. The conformation of the most productive localities hitherto found have been flat or level pieces of ground, surrounded by hills, and, in other instances, loosely in the clay formation. The sites of the most productive mines are intersected or bounded by channels of hard blue sandstone, and the veins are rich to the southward, as if the produce or metal was unable to penetrate these barriers, and had enriched the veins on the southern side of them. There is a great deal of granite in one of the districts, but the country, as I have said, is generally sandstone. The formation in which the Reedy Creek Mine is found, however, is an exception; it is composed of a very hard granite—so hard that it appears to me the deposits of copper ore contained in the veins of it cannot be mined sufficiently economically to leave a profit for working them; and this opinion seems borne out by the experience yet obtained from mining in the granite of this district. I have seen some lodes producing lead. I believe there were several hundreds of tons of lead raised from a mine near Adelaide some years ago. There has also been some gold found in a lode about 15 miles from Adelaide; I have seen some pieces of 1 oz. weight; and gold has also been found in the valleys of that district.

MINES.—The celebrated Burra Burra Mine is in a flat, surrounded by high hills, except a narrow valley leading to it; the extent of this flat or plate of ground is about 60 acres. Large heaps of copper ore were found above the surface, and beneath there is no appearance of any defined vein; but copper is found in all directions, until the workings reach the run of the hills. The rock from under the hills does not appear to be coming together very fast, so far as has been tested by the extent of the deeper workings. Some are of opinion that where the rocks from the hills to the eastward and westward of the mine come together, or get nearer to each other, a very large lode will be found going down; but I am inclined to the opinion that, when the workings get down to the rock, there will be found a great number of small veins and branches, but not that any one large lode will be found; time alone can show which view is correct.

The Bon Accord Mine is situated to the north of the Burra Burra Mine about one-eighth of a mile; it is just over the range of hilly ground. The ground there is sandstone, and the Burra Burra lodes are supposed to run through it. The workings have reached to within 50 fms. of the Burra Burra, but in Bon Accord no lode can be found. There are a great number of branches, such as I expect will be found in depth in the Burra Burra Mine, but none of them of sufficient size or value to pay for working.

The Princess Royal Mine lies to the east of the Burra Burra Mine. This mine has been commenced by a party, under an impression that the Burra Burra lode runs into it; but if they take that direction, up to this time they remain undiscovered, although in several parts of the grant copper ores have been discovered in lodes running north and south.

The second best mine in the colony is the Kapunda. This mine is situated very similarly to the Burra Burra, except that the hills are not so high, and the inlet to the mine from the south is much wider than at the Burra Burra. In this mine there is one large well-defined lode, and an immense number of branches, varying from 2 to 8 and 9 in. in width; in fact, wherever the workings are extended eastward and westward, numerous branches are discovered within a few feet of each other. In the hills, to the north of this mine, a channel of hard blue sandstone has been discovered, which appears

so to have checked the action of produce in that direction as to have caused all the branches in the course of the current, and up to this channel on the south side, to be filled with rich copper ores.

South Kapunda is about a quarter of a mile south of Kapunda, and all the lodes and branches are common to each property. The ground is similar to Kapunda, and the formation of the hills also correspond. A channel of blue sandstone traverses immediately to the north of the mine, but it is not quite so hard as that to the north of Kapunda, and, reasoning from analogy, similar results may be expected in this mine to those of the Burra Burra and Kapunda, but in the present state of the mines it is impossible to say to what extent.

There are a great many other small mines being worked, but they are not yet very productive.

I could find places for legitimate mining for a great number of companies, which any practical miner would recommend being worked. But mining cannot in general be sufficiently carried out by the colonists; there is scarcely any money here, and almost everything is done by barter; but I am persuaded that if English capital was judiciously introduced, and wrought out to its legitimate end, that this would prove one of the richest mining districts in the world.

SMELTING.—There is a very extensive copper smelting-works erected here by Schneider and Co.; it is near the Burra Burra Mine. This company, it is said, has entered into an agreement with the mining company to take all their ores. How the prices are fixed I do not know, but the mining company is paid for their ores by taking back copper at the market price, so that the smelting company is, in effect, paid so much per ton for smelting, which must be very high, when it is considered that 12s. per ton is paid for carriage of the firewood, as none is found at a less distance than 15 miles from the spot where it is required. There is another smelting-house placed in the midst of the forest, about 20 miles from the Burra Burra Mines, belonging to a Mr. Penny; but since the agreement has been entered into between Messrs. Schneider and the Burra Burra Mining Company little has been done at this house. Small quantities of ore may occasionally reach it from the Princess Royal and other small mines, but not of considerable amount.

Capt. Bagot has also erected a smelting-house in the district of his mines at Kapunda; he does not, however, purchase the ores of other mines. The ores from his own mines he has brought into a regulus of about 55 per cent., and occasionally he has produced small quantities of coarse copper, yielding 94 to 95 per cent.

There is another copper smelting-house about 60 miles south from Kapunda, belonging to a Mr. Thomas, formerly of Gwynep, in Cornwall. He purchases the ore from several small mines in that neighbourhood, and brings it into fine copper; he is without opposition, and I hear is doing well.

The cost of bringing the ores into fine metal in this country is so very high that I believe in most cases it would be cheaper to send it to England. It may, perhaps, be prudent to bring the ores of low per centage into a regulus, but even this is doubtful. People in this colony are intent upon converting everything into cash by the speediest method possible; and, although by sending it to England, and waiting a few months for the money, I am satisfied they would obtain a much higher price, they yet prefer disposing of it here for ready cash, they being content to forego prospective advantages for present certainty.

[To be concluded in next week's Journal.]

New Patents.

LIST OF PATENTS GRANTED DURING THE PAST WEEK.

R. B. Froggatt, Sale Moor, Chester, for improvements in the preparation of certain compounds to be used for the purpose of rendering woven and textile fabrics, paper, leather, wood, or other materials or substances water-proof and fire-proof, and also in machinery or apparatus employed therein.
G. Wynne, Esq., Hyde Park-square, Middlesex, and G. F. Wilson, managing director of Price's Patent Candle Manufacturing, Belmont, Yorkshire, for improvements in treating fatty and oily matters, and in the manufacture of lamps, candles, night-lamps, and soap.
F. C. Monells, Earlsdown, Berwick, for an improved hydraulic siphon.
D. Napier, Millwall, for improvements in steam-engines.
F. H. Greenstreet, Albany-street, Mornington-avenue, for improvements in coating and ornamenting zinc.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

J. Black, Edinburgh, paper cutting machine.—F. T. Jones and Co., London, moulding to be used as a picture rod.—W. Pesch, Sheffield, non-equal shears.—J. Chesterman, Sheffield, double expanding

lode be as we have reason to anticipate, as rich as in the shaft, we shall not continue sinking until the water is down, as we are not in present need of tin to supply stamps, but shall only drive the lode and raise tin from thence at the same time that we are making our level. Capt. J. Ivey was at the mine on Monday and yesterday (Dec. 29); what he says further of Branton's lode confirms his high opinion of its value.

COPPER BOTTOM.—In the rise in the back of the 30 fm. level, west of Paill's shaft, the lode is still producing good work. Highbarrow shaft is sunk to the 10 fm. level, and we have commenced driving west in the bottom of it; the lode in the end is 2 ft. wide, and is by far the most promising one that I have seen in this part of the mine. I believe it will soon be of a productive character. We hope to commence sinking it in May, and driving the 30 fm. level west of it next week. In the 30 fm. level, driving west of Gendall's shaft, the lode has still a very promising appearance. In a winze sinking below the 10 fm. level, west of May's shaft, we have a branch of ore nearly 4 inches wide, of a good quality.—P.S. Had it not been for an accident, which happened last week in fixing pit work in May's shaft, we should have been in a position to report more fully on our underground operations. I am happy to say everything is going on well at present.

CUBERT SILVER-LEAD.—The engine-shaft is down 5 fms. 3 ft., ground rather hard. I intend to set the shaft, to reach the 45 fm. level, on Monday. In the 35 fm. level west the end is not yet got into the soft part of the vein; as soon as we reach it we expect a good course of lead, as we can see a good bunch of lead going down from the 25 fm. level. We shall sink a winze through this lead ground to prove it, and for ventilating the 35 fm. level west. In the 35 fm. level east the lode at present is disordered by cross veins. The 35 fm. level west is in a good branch of lead, and looking very promising; in the 25 fm. level east the lode is looking very promising, composed of soft spar and good bunches of lead. The 15 fm. level east is letting out water very freely, and by every appearance we are near a much larger lode; in the 15 fathom level west the lode is large; it is at present poor, but kindly. We have not yet got under the lead going down from surface; we are likely to get a better lode here shortly. The tribute pitches are looking well, all yielding a fair quantity of lead. We shall be in a position next week to increase the raising of lead, and shall continue to do so as our shafts get in new ground. We can see good bunches of lead ground in advance of the lower levels, and as soon as our ends below get in under those runs of lead, so as to enable us to work the backs, we may expect good returns. The dressing operations are going on steadily.

CWM ERFIN.—The rise and stope over the 10 fm. level, on the north lode, are yielding 15 cwt. of silver-lead ore per fm. The 30 east is poor, but is approaching the run of ore ground seen in the 20; the winze under the 30 is yielding 3 tons of ore per fm. The 45 east has a little ore in it; a rise over the 45 is yielding 14 tons of ore per fm. The agent hopes to raise about 28 tons of ore for December.

CYRANEDD PAWR.—We continue the driving of the adit level. There is no alteration to notice since my last; the ground is quite as favourable.

DEVON CONSOLS NORTH.—The end east of Morris's shaft has been driven about 8 ft. beyond the cross-course; the lode is upwards of 4 ft. wide, composed of pryan, spar, mangle, and yellow copper ore, with beautiful greens. The appearances are better than we have yet had in this remarkably fine lode. We are about to commence our required shaft north-west of Morris's shaft, so as to cut the lode at 20 fathoms from surface. We confidently expect a course of ore at that depth.

DOLFRYNOG.—We are driving on steadily with the sinking of the engine-shaft (Williams's); the ground is becoming closer, and strongly intermixed all through with mangle. In Harvey's trial there is no change to notice; the ground is quite as favourable, and fully warrants our commencing sinking.

DUKE OF CORNWALL.—Our engine-shaft is down 20 fathoms. We have completed our plat and commenced driving towards the first lode; the ground continues of the most favourable description; we have already met with several strings in the hills, containing good spots of copper. The general indications, both of the lode in the adit level and the country in the 20 fm. level, are such as to lead us to anticipate the most favourable results on cutting the lode. The engine works exceedingly well, and is all that we can wish.

EAST BORINGDON.—Annie's shaft is down about 64 fms. below the 20 fathom level, and the ground just the same as when last reported. We shall get our drawing lift down below the 20 fm. level in the course of next week, when we shall make greater progress in sinking, until the lode drops into the shaft, which will be about 54 fathoms deeper, and which will make it about 32 fms. below the 20 fm. level, when we shall drive east and west. The 20 fm. level is hard, and the mangle is much spar, it is terminated with lead; going west, I have no alterations to notice. We are still laying open some good ore ground in both these levels.

EAST CROWDALE.—The 58 fm. level, west on south lode, is about 2 ft. wide, composed of mangle, hills, and a little copper; the ground about the lode is of the most promising kind, and we hope as we near the cross-course the lode will improve again, and we expect to be able to let tribute in the bunch of copper ore driven through. The rise in the back of the 58 fathom level on north lode is improved; though the ground is hard, we hope to let tribute on this lode in the course of a month. We expect we have about 9 fms. to reach the slide in the 58 fm. level west, near which we hope to meet with a good lode.

EAST DAREN.—The stope over the 20 fm. level, and that over the 10, are looking very well, yielding from 3 to 4 tons per fm. of silver-lead ore. The 20 fathom level east is still yielding 3 tons per fm., but the back of the present end of the level is poor; the ore ground in this level is now 6 fms. longer than in the level above. Taylor's shaft is nearly deep enough for the 20 fm. level; the lode in it is large, with good stones of ore. The dressing of ore is going on favourably, and 50 tons may be expected in Jan.

EAST TAMAR.—In the 90, north of Furehill shaft, the lode is 18 in. wide, composed of spar and can, with occasional stones of ore. The 70 north is worth 6 cwt. of ore per fathom. The 60 south is improving; it yields 7 cwt. of ore per fathom; the branch is about 8 ft. wide, of a good quality. The 50 south is worth 6 cwt. of ore per fathom. The shaft is down 45 fms. below the deep adit, and we have commenced to drive south; the lode has a kindly appearance, and worth 8 cwt. of ore per fathom. The 40 north is worth 6 cwt. per fathom. The pitches are not yet yielding the same quantity of ore as heretofore. I fear our next sampling will be considerably less than usual. There is, however, a good productive lode in the bottom of the 70. The parcel of ore sold to Messrs. Locke, Blackett, and Co., was shipped on Monday last, and weighed 53 tons 2 cwt. 2 grs.

EAST WHEAL RASHLEIGH.—When Capt. Hoskings was here surveying the mine, the lode in the shaft had not settled; in sinking, we have found the lode to be a great deal better; we have now the full size of it, which we find is 4 ft. wide, with beautiful dark gossan, soft pryan, and flookan; the water is rather quick; the stuff broken from the lode in the adit level we have saved, and we find it contains a considerable quantity of copper that may be used for dressing. The floor of the shaft is now ready, and we shall drive in the adit, at 2 ft. 10 in. per fm., but the men want a tribute on the ore returned, the price being too low for tutwork alone. We consider the mine looks better now than ever it did. The ground through which we are sinking is sparry, but somewhat hard, and containing a number of small strings of lead that appear to be very rich in silver; they are lying about on the eastern side of the shaft. The east and west lodes appear to be bedding somewhat faster. Our shaft is down 73 fathoms; next month we shall require more men at surface, and the last for the wheel ought to be got on with directly.

EAST WHEAL RUSSELL.—We commenced sinking Hitchins's shaft on the 29th Dec. I have set 10 fms., or through the gossan, for 80 ft.; we have a soft pryan elvan and gossan of a splendid character in the bottom of the shaft. Our engine is working well, and all connected with it. I see nothing to prevent us from going down with rapid speed. We have the horse-wheel to work for a few days, and expect to start the steam within some time next week, if all is well. In the present end of the tunnel we have driven 2 fms. 2 feet south, and there is no wall; the lode is composed of very strong peach, capels, mangle, pryan, spar, and small spots of copper ore; I hope we shall have more as we go to the south wall. The rise in the back of the level is producing stones of ore and small portions of tin; there is not so much tin in the rise as when Captain Lean was here.

ESGAIR LEE.—In consequence of the Christmas holidays and other impediments, very little has been done during the week, and our prospects generally are quite equal to my last report; and in case we are not obstructed by frost, we shall, in the course of 8 or 10 days, sample 20 tons of ore.

GREAT BRYN CONSOLS.—We have holed Lelan's shaft, completed the plat, and shall commence raising tin for the stamps next week, which, according to your instructions, shall be erected as soon as possible. We are pushing on the deep adit, and shall intersect the south copper lode in one month or six weeks. You have herewith the samples and price of the tin assayed by John Mitchell, Esq., of St. Austell.—No. 1, 70 per cent.; No. 2, 70 per cent.; No. 3, 70 per cent.; No. 4, 70 per cent. There is a little copper found with the samples, which caused the price to be a little lower than it would probably be if the tin were pure and properly dressed.

GREAT ONSLOW CONSOLIDATED.—We have fixed the lode underground, and are now drawing the water from Bennett's shaft, as well as from the pump or engine-shaft. As the machinery is working well; consequently, we shall now be able to sink both the shafts at the same time. We have now good air, which will enable us to increase the number of men; there are already 68 employed in these mines in sinking shafts, winzes, driving levels, stopping, &c. We expect, in the course of next week, to get down to the bottom of the 65 fm. level; immediately that is accomplished, we shall commence driving both ends towards the runs of the ore ground. All the ends are productive of mangle and copper ore. In driving east in the 35 fm. level the lode is very large, and composed chiefly of mangle and yellow copper ore. We put a part of the lode in the 35 fathom level west, where the lode appears to be equally large, and will turn out at least 10 tons of mangle to the fathoms, and from 5 to 6 tons of good strong yellow copper ore also to the fathom—the ore course being about 2 feet wide, and distinct from the mangle course, and is a similar description of yellow copper ore to that raised in the Treavener Mine during the time she was so very rich. The lode in both ends of the shaft, sinking below the 35 fm. level, is looking splendid; the size of it we cannot exactly say, but in all probability from 10 to 16 ft. wide. We have now about 60 tons of mangle ready to send to the wharf; and our slides and runs are full of mangle and copper. We are increasing the size of the floors with all speed, and we have not at present half room enough to contain the ore bringing up from the mine; and as soon as the floors are completed, we shall be drawing with the whims both mangle and copper, day and night. We sent a box of ore from the 35 fm. level by one of the gentlemen of the deputation to the offices of the company—Messrs. Dennett, Carr, and Co., 2, Moorgate-street, London; and next week intend sending up another box of ore about 2 or 3 cwt., from another part of the mine, which will be much better specimens of yellow copper ore than those taken by the deputation.

JAN.—The box of specimens of yellow copper ore has arrived at the offices, where they have been inspected by a great many gentlemen—all of whom declare that they never saw finer specimens of yellow copper ore from the greatest mines in the kingdom, and expressed themselves much pleased with the inspection of the same.

GREAT POLGOOTH.—The rise in the 96 fm. level, east of Williams's, is now let on tribute at 16. 6d. in 17. The lode in the 96, east of Clarke's, is large, and producing good tin stuff; in the 96 cross-cut, east of Clarke's, to cut the north lode, we very suddenly came into a hard bar of ground, which has prevented our driving the extent of ground we anticipated in the past month, but according to the dialling we are not far from the lode. The middle lode in the 84 fathom level, east of Clarke's, is producing good tin stuff; and in the cross-cut in this level we have met with the same hard bar of ground as we have had in the 96 cross-cut. The lode in the pitches in this level is larger than when last reported, and the average of four pitches is about 6 cwt. of tin per 100 sacks. We have commenced a winze from the 76, east of Clarke's, to sink to the 84 fm. level, for ventilation, &c. We have cut the lode in the 84 fm. level, west of cross-course, and let it on tribute at 26. 6d. in 17. The lode in the 90 fathom level, west of Bardens's, is worth 4 cwt. of tin per 100 sacks, and the mine generally is looking as well as usual. We sold on the 29th Dec., to the value of 500l. 17s. 6d., and shall deliver another parcel, probably, on the 31st inst.

Working costs, sales of ore, and surplus, for three months, from July 1 to Sept. 30, 1851. Working costs, including London expenses, merchants' bills, &c., 3977l. 4s. 8d.—Less stones paid for, but not used, 912l. 6s. 9d.—3085l. 13s. 5d.—The sales, 36 tons 3 cwt. 0 grs.

7 lbs., 4792l. 11s. 7d.; copper sales, 36 tons 3 cwt. 3 grs.; copper raised but not sold, about 6 tons, 42l.; mangle raised, but not sold, 132l.; arsenic in hand, 22l. 10s.; ores and alloys on the floors, estimated at 250l.; leaves balance over costs, 1389l. 16s. 3d.

HENNOCK.—The shaftmen have sunk about 4 ft. the last week, and their having the middle lode now in the shaft makes it rather spare for sinking. I have put the men who were driving north by the side of the lode in the 30 fm. level out through it, and by next week I shall be able to report its character. Those who were driving west through the lode have cut it, and are now driving south on a very kindly lode, producing a great quantity of jack, with some lead.

HOLMBUSH.—The ground in both engine-shafts is still very favourable for sinking through, and great progress is making in both to reach important objects. The lode in the winze below the 123 fm. level, east of the great cross-course, will produce 24 tons of ore per fathom. To the 123 east it is 12 in. wide, producing 14 tons of ore per fm.; the lode in the 132, north and south, is 8 ft. wide, producing saving work for lead. The 120 east is 4 ft. wide, and will produce 4 tons of copper ore per fathom. The 110 east will produce 5 tons of ore per fm. The lode in the 100 east is 5 ft. wide, composed of mangle, spar, and stones of ore; there is no alteration in the 100 fm. level, west of Wall's engine-shaft, on the flap-jack lode.

KESWICK.—The 20 fm. south, at Brandley, is without alteration; the 20 fm. north is worth 10 cwt.; Kelly's rise, 13 cwt.; Hewetson's rise, 20 cwt.; Salt sump stop, 25 cwt.; Salt level rise, 8 cwt.; Salt level stop, 10 cwt.; and bottom level, 10 cwt. per fm. At Thorntwaite, the 37 fm. level is worth 7 cwt. of ore per fm.

LEWIS.—The north lode in the 90, east from sump-shaft, is 1 ft. wide, producing stones of tin. Praed's lode in the 30, west from Stainby's shaft, is 1 ft. wide, opening low-price tribute ground; this lode, east of Gundry's shaft, is 14 in. wide, producing low-price work. Praed's lode in the 20, east from Gundry's shaft, is 1 ft. wide, with kindly appearances; we expect to hole this level to the rise from the 30 fm. level this month. The south lode in the 10 fm. level, west from Gundry's shaft, is 10 in. wide, opening tribute ground. Harvey's lode, in Harvey's shaft, is 18 in. wide, producing low-price work. This lode in the 17 fm. level, east from Duke's shaft, is 18 in. wide, opening low-price tribute ground. Rowe's lode in the adit level, east from Rowe's shaft, is 18 in. wide, saving work. We shall sample 37 tons of tin this month.

MOLLAND.—The 42 east is about 4 ft. wide, with good stones of yellow ore; in the west end in the same level the lode is 3 ft. wide, and will produce about 16 or 17 cwt. of ore per fm. The 30 east is again improving a little; the lode is about 3 ft. wide, with a small leader of ore on the south side. The 30 west is still poor.

NORTH BULLER.—To-day (Dec. 27) being our setting, we set to nine men to sink Louise engine-shaft till the setting for February, at 20 ft. per fathom. The 40 fm. level east, on Clinton's lode, is improved since last reported; the lode is now 3 ft. wide, with good stones of ore throughout—set to four men, to drive 4 fms., at 3 ft. per fm. The lode in the 40 fm. level west is 1 ft. wide, producing stones of ore, &c.—set to two men, to drive 2 fms., at 3 ft. per fathom; we also set to six men, to stop the back of the same level, on Clinton's lode, at 2 ft. per fm., and from present appearances we expect to raise several tons of ore. We set King's shaft to sink by nine men, 4 fms., at 17 ft. per fathom, lode 15 in. wide, composed of gossan, pryan, and gossan stones of copper ore. The lode in the 12 fm. level, east and west of King's shaft, is unproductive. We set the end to drive west of King's shaft by four men, 2 fms., at 6 ft. per fathom; the lode is 3 ft. wide, with gossan, peach, quartz, and spots of yellow ore. The lode in the adit end, driving east of adit shaft, is 3 ft. 6 in. wide, of a very kindly appearance—set to four men to drive 2 fms. at 4 ft. 10 in. per fathom.

NORTH DOWNS.—In the 80 fm. level, east of west shaft, Christie's lode is 18 inches wide, with stones of ore.

NORTH WHEAL BASSET.—The lode in the 82 fm. level, west of the new shaft, is 2 ft. wide, with a good lode of yellow ore. In the 72 the lode is 3 ft. wide, composed of gossan and grey and black ore—a very good lode. The lode in the 62, west of Lyle's shaft, is 2 ft. wide, composed of gossan, mixed with grey ore. The lode in the winze sinking below the 72 is 3 ft. wide, a good lode of yellow copper ore. The lode in the 82, west of Miner's shaft, is 3 ft. wide, a good lode of yellow ore. All the pitches continue with but little alteration since last report. Nothing new in any other part.

OKEL TOR.—The ground in the cross-cut driving north continues favourable, which has enabled us to make considerable dispatch in extending it towards the copper lodes; the level has now approached the former end, where a considerable stream of water was issuing, presumed to be from the first copper lode to the west of the cross-course. The driving is about 12 feet weekly, in a beautiful stratum of ground for producing copper ore.

PENTIRE GLAZE AND PENTIRE UNITED.—The 34 fathom level is driven on the course of the slide about 10 fms. north of the engine-shaft; we have had mangle to the west of the slide for the last 2 or 3 fms. driving. In the 22 fm. level, at boundary shaft, we have commenced driving a cross-cut west to intersect the Barbara lode, by our means. The 22 fm. level south is still poor, but the lode is more compact than for some time past, and is 4 ft. wide. The 22 fm. level north is still yielding its usual quantity of good saving lead work. The stope under the 10 fm. level, south of the winze, are looking better than for some time past—lode 6 ft. wide, leady throughout; the bunch of lead in the bottom stope we have not touched this month, being engaged in lengthening the top stope, and stripping down a part of the lode standing toward the east wall; these stopes are looking better than they did last setting day. In the stope south of the rise, in the back of the 10 fm. level, we have a splendid lode, the leader part being 3 ft. wide, yielding very rich lead work; the east part of the lode (4 ft. wide) is dredge throughout; I consider the lode in these stopes worth 50 ft. per fm. In the stope north of the rise the lode is 6 ft. wide, yielding saving work. The stope in the back of the 30 fm. level are yielding their usual quantity of good lead work; we are carrying a part of the lode that was left standing to the west of the level; this is about 6 ft. wide, and yielding very well. On the 9th Dec., we sold to Sims, Williams, and Co., 28 tons 4 cwt. 3 grs. lead ore, at 12s. 5s. 6d. per ton. We shall have, by the end of the week, about 30 tons of copper ore from the Pentire set, undressed, and on Monday, the 5th of January, we shall sample (computed) 30 tons from the Pentire Glaze set, of good quality. A part of the new plunger lift is on the mine; it will be more than a week before the whole will be completed at the foundry.

PRINCE ERNEST.—We are progressing favourably with our cross-cut: the first lode which we cut through would be sufficient to establish the name this concern has already attained. We are now approaching the second lode, and if the condition of the surface is any criterion by which we may judge of the value of the lodes, we may expect a great deal more on cutting it. Both this mine and the Duke of Cornwall have excited a great deal of attention in the neighbourhood, and another set contiguous has recently been taken up by parties who are closely watching the results of the speculation.

RIX HILL.—The 28 on south lode is suspended, and a pitch offered at 6s. 8d. in 17; the lode is going east, near the point of the horse, where it has been disordered; consequently it is suspended, to work the pitch. The 17 east is also suspended for the same reason. We hope the 40 cross-cut will reach the lode in about 3 ft. further driving. The 28 cross-cut will take another month to reach the lode, when we hope it will open good tribute ground. The bottom of engine shaft is 28 fms. below the surface; the middle shaft is 57 fathoms. Our tribute department looks fair. Our last parcel of tin sailed for Truro on the 27th inst.

SILVER VALLEY AND WHEAL BROTHERS.—Since we last reported several bags of silver ore, producing on the average from 150 to 200 ozs. of silver to the ton have been broken from the rise in the back of the 24 fm. level (Oak shaft). The lode in the end of the 24, also in the 30, is producing some saving work, and we occasionally meet with stones of ore rich with the grey and red oxide of silver. West of the winze, east from Murray's shaft, we are daily breaking from three to four bags of gossan, and rich with the murrate of silver, and during the past week we have raised from there more than a ton of gossan, which will produce about 70 ozs. of silver to the ton. By the early part of the week we shall have more than 5 tons of ore ready to sample.

SOUTH TAMAR CONSOLS.—The engine-shaft is sunk 9 fms. 5 ft. below the 124 fm. level; the lode in the bottom of it is 3 ft. wide, worth 6 cwt. of ore per fm.; in the south end of the level, it is worth 9 cwt. of ore per fm. In the 112 the lode is 3 ft. wide, ground soft, worth 6 cwt. per fm. In the south end of the 100, the lode is worth 7 cwt. of ore per fm. The men are now rising up to the 90 fm. level. In the 90 south, the lode is 4 ft. wide, easy for driving, and worth 8 cwt. of ore per fm. In the south end of the 80, the lode is 2 ft. wide, worth 9 cwt. of ore per fm. The 30 south is worth 7 cwt. of ore per fm., good quality. This driving has laid open, during the past three months, some very rich and profitable ground. The tribute department is in a satisfactory state, and will enable us to increase the returns as soon as the weather becomes more favourable for dressing operations.

SOUTH WALES MINES.—We are still proceeding with the sinking of Thomas's shaft below the 12 fm. level.

TAMAR SILVER LEAD.—The engine-shaft is sunk 8 fms. 5 ft. below the 20 fm. level. In this level, driving south, the lode is 18 in. wide, 6 in. of which is rich work. In the 100 and the 90, the lode is 4 ft. wide, composed of flookan, spar, with a small quantity of ore, and the 175 east the lode is 1 ft. wide, producing work of a good quality. At Spurgin's shaft, in the 175 end, driving south, the lode is 18 in. wide, good saving work; in the north end, in this level, the lode is 9 in. wide, composed of flookan, fluor-spar, and ore. In the 160 end, driving south, the lode is 2 ft. wide, opening good profitable ground. At the north mine, in the 90 end, the lode is 3 ft. wide, producing work of a congenial appearance. In the 90 end the lode is 1 ft. wide, composed of capel and ore, good saving work. Our last parcels of ore, sampled on the 6th Dec., was sold to Thomas Somers, Esq.—No. 1, computed 38 tons, at 17s. 8s. 6d. per ton; No. 2, 42 tons, at 18s. 12s. 6d. per ton.

TINCROFT.—On Highbarrow tin lode, in the engine-shaft sinking below the 152 fm. level, no lode has been taken down since last report, then worth 22 ft. per fm. In the 152 fm. level, driving east of said shaft, the lode is 3 ft. wide, worth 61 ft. per fm.; in the 132, driving east of said shaft, the lode is 18 ft. per fm. for tin and copper. In the 132, driving east of said shaft, the lode is 4 ft. wide, worth 12 ft. per fathom; the stope in the back of this level are worth 15 ft. per fathom. Chapple's lode, in the 120 fm. level, driving west of downright shaft, is 7 ft. wide, worth 16 ft. per fathom for copper. In the 116, driving west of said shaft, the lode is 4 ft. wide, saving work for copper; in the winze sinking below this level the lode is 3 ft. wide, worth 3 ft. per fathom for copper. In the 100, driving west of said shaft, the lode is 4 ft. wide, producing good stones of copper ore. The 99 and 70 fathom levels, on Groul's lode, are within a few fathoms of boundary, and at present poor. The lode in the 97 fm. level, driving west of Dunkin's engine-shaft, on the south part of Dunkin's lode, is 8 ft. wide, worth 32 ft. per fathom. In the 90 fm. level cross-cut, about 10 fms. west of the end, we have intersected a branch of rich copper ore, but have not yet reached the main part of the lode. The pitches on this lode, both in the back of the 100 and 90 fm. levels, are producing fair quantities of good ore. At Tincroft, in the 120, driving east of new engine-shaft, the lode is 2 ft. 4 in. wide, saving work; in the west end, same level, the lode is 3 ft. wide, worth 8 ft. per fm. for copper. In the 116, east of said shaft, the lode is 2 ft. wide, worth 4 ft. per fathom for copper; in the east end, the lode is 4 ft. wide, worth 14 ft. per fm. for copper. In the 100, driving east of Willoughby's shaft, the lode is 2 ft. wide, worth 3 ft. per fathom for tin and copper; in the same level, west of engine-shaft, the lode is 8 ft. 3 in. wide, worth 14 ft. per fathom for copper. In Fridesco's winze, sinking below the 90 fm. level, the lode is 4 ft. wide, worth 18 ft. per fathom for copper. In the 24, driving east of Stainby's, the cauter lode is 15 in. wide, worth 12 ft. per fathom for copper.

TRELAWNY.—Trelawny shaft is now down 94 fms. below the 107 fm. level, and the ground is still easy. In the 107 fm. level, in the north end, the lode is 3 ft. wide, and worth 9 ft. per fm.; and in the south end it is 2 ft. wide, and worth 7 ft. per fm. In the 92 fm. level, in the north end, the lode is 3 ft. wide, and worth 8 ft. per fm.; and in the south end it is 2 ft. wide, worth 10 ft. per fm. In the 82 fm. level, in the north end, the lode is 3 ft. wide, and worth 10 ft. per fm. At the north mine, in the 75 end, north of Trebarn's, the lode is 2 ft. wide, and worth 8 ft. per fm. In the 68 fm. level, north of ditto, the lode is 2 ft. wide, and worth 7 ft. per fm. In the 68 fm. level, south of Smith's, the lode is 1 ft. wide, and worth 12 ft. per fm. In the north end the lode is improved since last report—it is now 3 ft. wide, and worth 8 ft. per fm. There is no alteration in the 55 end north. Our stope and tribute pitches are much as usual.

TRELIGH CONSOLS.—In the 100 fathom level, west of G. the lode is 30 in. wide, with stones of ore. In the 90 west the lode is 3 ft. wide, composed of ore; the winze below the 90 west is holed to the 100; in the 80, west of Arthur's winze, the lode is 2 feet wide, worth 25 ft. per fathom; above the 80, east of Woolcock's rise, the lode is 2 feet wide, worth 20 ft. per fathom; 90, east of Christie's shaft, the lode is 18 in. wide, with good stones of ore, at 40 ft. kindly.—Parent Lode: The 64 cross-cut, north of Parent shaft, is driven east Parent lode; the 64 cross-cut south is driving to cut the middle lode.—M. Burgess's shaft below the 35 fm. level is suspended.

TRELOWETH.—We have commenced sinking the engine-shaft 55 fm. level; the ground continues without alteration. They have driven 14 feet since my last. The 45 west is extended about 18 ft.; the lode is not copper ore as it has been for the last fortnight—driven 4 ft. in the 45 fathom which continues poor. The 33 fm. level west has been driven 3 feet—lode yielding stones of copper ore.

TYWARNEATH.—There have been 316 tons of copper ore shipped. Wheel Clarence lead lode in the adit south has greatly improved in the past turning out 5 cwt. of lead ore per fm. The 23 north is also better, yielding 3 ft. per fm. The adit south of south shaft still contains a branch of lead ore on the lode, and a branch of silver ore on the west part.

UNITY CONSOLS.—At Gray's engine-shaft the cross-cut in the 70 level is driven south about 10 ft.; the ground is very hard, but it is very likely to cut the lode in another week. In the 60 fm. level east the lode is 14 ft. wide, producing work for tin; in the same level west the lode in the end is 3 ft. wide, and 5 ft. per fathom for tin. In the 50 fm. level west the lode is 2 ft. wide, and worth 2 fms. per fathom for tin. In the 40 fm. level west we have cleared to the end; we find it 8 ft. wide, producing stones of copper ore, and good work for tin. In the 30 fm. level west the lode is producing saving work for tin; in the same level, east of B. shaft, the lode in the rise is 2 ft. wide, and still producing saving work for tin. Lambo, Kenworthy's engine-shaft in the 40 fm. level, south cross-cut towards Ham lode the ground is favourable for driving. In the 40 fm. level, east of eastern shaft the lode is 8 in. wide, and worth 6 ft. per fathom for copper. We have 7 or 8 more to drive before we hole to Wheel Kitty; in this level, when the water is when holed, we shall drop a lift for the purpose of forking to the 50 fm. level, and still clearing the 30 fm. level, west of Hampton's shaft, where we find the part of the ground is taken away by old workings, leaving small arches of ground still to be taken away by our tributers. Our tribute pitches are all looking much as reported last week. There has been very little done in the way of progress in operations for the last few days in consequence of the Christmas holidays, otherwise, should have gone to the smelting-house with tin on Saturday last, but hope to go on Friday, the 24 inst.

WEST BASSET.—In the 84 east, the lode is 2 feet wide, with a good bunch of ore in the back of the end, producing about a ton of ore per fm.; west it is 3 ft. wide, leaving a good bunch of ore 14 ft. wide in the bottom. In the course of next week sumpmen will commence sinking the shaft under the 84, and we intend putting it more men to assist, so as to sink with all speed. Other places are without any material alteration.

WEST WHEAL ALFRED.—Our progress during the last week in forking has been very slow, in consequence of us losing a clock. We hope for better success in the coming week.

WEST WHEAL ROSE.—The north end continues rather hard, but the lode is very kindly. The north shaft is stopped for the present, on account of the water being so quick, but it will be drained by the north end as it nears the shaft. There is no change in the east end. The lode has an appearance of great promise for lead, &c., as it is my decided opinion that at no great depth we shall get into a more favourable channel of ground, and a course of lead ore.

WEST WHEAL RUSSELL.—The driving of the 60 fm. level cross-cut suspended for the present, the men being put to drive east on a lode met with in the side of the cross-cut, the driving of which belongs wholly to the Wheal Russell aditmen. We hope to resume driving the cross-cut again in about a fortnight. In the 37 fathom level, driving west the lode has a promising appearance, far better than I have seen it for some time past; it being at present from 3 to 4 ft. wide, producing good stones of ore. No lode has been taken down in Bayley's engine-shaft sinking below the adit level to the west of the river since my letter of the 27th inst.; supposing that greater progress can be made by sinking in the ground to the north, which we are now doing to prove, we shall be taking down the lode in the course of this week, when you shall have the result. The lode in the adit level driving west from Bayley's shaft has still that promising appearance, composed principally of spar, gossan, and stones of black and yellow ore; progress at present making in this level is not so great as heretofore, in consequence of the ground becoming more firm, which I believe must be calculated on as we do into the hill.

WHEAL ARTHUR (CALSTOCK).—We sampled here, on Friday last, tons of ore, of a very good quality; and if we had not met with a slide or floor of mangle in the sink, we should have sampled several tons more. The lode in the part of the sink is very good; I never saw it look better. I have set the winze to be by nine men, at 6 ft. per fm., in order to break the ore at a better advantage, as well as getting nearer the 35 fm. level, which I hope will be in and cut the lode at that level a few weeks; if the lode keeps its regular underlay; we have not more than 3 fathoms to drive. We have about 5 fms. more to the 30 fm. cross-cut to intersect the great south lode, which I hope will prove productive. In the 50 cross-cut north, at this present time the ground is hard, and very sparry for driving, but I hope it will change for the better after driving a few fathoms further. All other work on the mine is going on very well.

WHEAL ARTHUR.—We must not meddle with anything near the shaft if we do we shall ruin the men, and have all our work to do over again. We are working the mine in a fair, honest, and miner-like manner. I think it is better to well alone, as I can almost reduce it to a certainty to have a good and lasting mine.

WHEAL EDWARD.—Our main shaft is 5 fathoms deep. We have a lift water, but nothing to speak of, and expect that we shall be able to proceed to work cut the lode at 10 fms. deep, with the windlass.

WHEAL FANNY.—Hitchins's engine-shaft has been sunk 20 fms. 1 ft. from the surface, and set 10 fms. at 5 ft. per fm.—the takers to pay 17s. 6d. per fm. for drawing, filling, and landing the stuff. The old engine-shaft we have cut down, cased, and divided, and put in the ladder road, and made good 18 fms. 2 ft.—set 8 fms., at 6 ft. per fm., which I hope will be done a little more expeditiously in future. Two men are engaged in putting in a dam in the adit level to take up the water, to commence at a winze on the course of the lode; and, if true, as the former adventures have shown that they cut the lode in the 20 fm. level, we shall be able to sink this winze as the men sink the shaft; it will drain the lode, and enable us to sink this winze, to prove. In the meantime, the shaftmen are getting down, which I hope to be able to you a favourable report of next. Our machinery works excellently well.

The lode in the south end is 16 in. wide, with good leaders of lead, much expected to find it. I hope in the course of a few days to clear up this lode, which, I am informed, is about 7 fms. deep; we have, therefore, a good length of ore ground in this part of the mine. We will work the lode in the old part of the mine as fast as possible, and be at work in a few days.

FOREIGN MINES.

S MINES.—The following has been received from Mr. H. Thomas: 20.—San Anton mine, sinking under the 55 fm. level, is in fair ground, lode worth 1 ton in a fm. The 55 fm. level, driving west of Wilson's shaft, and during the past week, both in the ground and the productiveness of the lode worth 1 ton in a fm. The mine (Buena Ventura) sinking under the lode of this end, is still in a good lode, being worth 4 tons in a fm. In the 55 fm. level, the lode is looking better, being worth about 3 tons in a fm. In the same level, driving east and west of Shaw's shaft, there is no change in the lode being still hard, and producing occasional stones of lead ore, but not in the 45 fm. level, driving east of Shaw's shaft, the lode is worth 1 ton in a fm. The mine, sinking under the 31 fm. level, in advance of this end, is worth 1 ton, with the ground somewhat harder than before. In the 45 fathom level, at San Juan shaft, we have put the men to drive on a small branch of lead ore, in the course of the level, in order to ascertain if any valuable part of it is still standing on the north. This small branch of lead is worth rather less than a fm. The 31 fathom level is being driven east of Shaw's shaft, on a lode worth 1 ton in a fm. On an average, the lode is worth 1 ton in a fm. The work at a moderate rate. Thorne's shaft is being cut down, and this work is going fairly. The tribute pitches are looking well, and the men breaking considerable quantities of ore.

Account.—Lead ore weighed in to December 20, 57 tons 6 cwt.; total in stock, 14 cwt. Pig-lead smelted to Dec. 20, 24 tons 2 cwt.; total in stock, 569 tons.

REVIEW OF MINING IN 1851.

BY J. Y. WATSON, ESQ., F.G.S.

Mines.	Paid up.	Market value.	Div. per share.	Amount.
Great Consols	£ 1	£ 280	£ 40	£ 40,960
Buller	5	500	70	17,920
Basset	104	380	60	15,860
Frances	70	155	42	10,416
Consols	24	17	14	9,472
Wheal Rose	50	400	724	9,280
Brea	15	100	9	9,000
Pool	224	180	45	9,000
Iskey	180	210	564	6,780
Am.	5	40	9	4,608
Roskear	54	170	304	4,270
United	24	7	11 3/4	4,600
Consols	554	400	40	5,120
Caradon	24	120	15	3,840
Tolgus	16	150	164	4,224
Consols	14	10	14	1,920
Level	83	30	8	3,440
Caradon	20	115	164	4,224
Golden	8	8	8	3,250
Tremayne	94	28	84	3,584
Reeth	204	85	124	3,000
Seton	107	190	24	4,752
Want	24	140	19	3,040
Providence	10	105	5	2,560
Whealwyn	84	87	44	2,340
Consols	204	25	8	1,680
Wheal	80	240	15	3,000
Work	15	200	25	2,680
Widdon	11	10	1 5/6	2,975
St. George	214	40	14	3,240
Ship	128	100	12	1,536
Wheal	182	200	15	1,500
Wheal	1	6	2	1,024
Wheal	79	140	14	1,568
Wheal	17	7	14	1,500
Wheal	3	3	25	1,100
Wheal	80	125	18	1,222
Wheal	74	4	4	768
Wheal	80	110	24	500
Wheal	20	100	2	512
Wheal	84	4	4	384
Wheal	5	15	24	800
Wheal	95	110	5	500

Total amount on 45 mines £216,486

Dividends paid on Welsh mines:—	Dividend per share.	Amount.
Burne	75	650
Whealwyn	60	100
Wheal	9	9
Wheal	24	14

Total on Welsh mines £11,864

Dividends paid on Scotch mines:—	Dividend per share.	Amount.
Black Craig	2s. 6d.	£ 625 0 0
Kirkcubrightshire	5s. 6d.	196 10 0

Total £ 821 10 0

Dividends paid on Irish mines:—	Dividend per share.	Amount.
Wicklow	2 1/4	£ 13,500 0 0
Gen. Mining Co. for Ireland	20 per ct.	1207 7 6

Total £14,707 7 6

Dividends paid on Foreign mines:—	Dividend per share.	Amount.
Wheal	£7 0 0	£84,000 0 0
Wheal	3 0 0	35,000 0 0
Wheal	0 10 0	10,000 0 0
Wheal	1 0 0	2,700 0 0
Wheal	0 5 0	2,500 0 0

Total £132,200 0 0

GRAND TOTAL.	Amount.
British Mines	£216,486 10 0
Foreign	132,200 0 0
Irish	14,707 7 6
Welsh	11,864 0 0
Scotch	821 10 0
Total	£ 376,079 17 6

This statement has been revised by Mr. Watson: we have also received corrections from our correspondent, "Argus" (of Truro); it may, therefore, be taken as an amended list, and, as far as we know, embodies the dividends paid during the year; if otherwise, the omissions arise from the agents upon the mines not forwarding us regularly the particulars. We, however, request they will furnish us with their lead and tin returns of which have been delayed, in the full expectation of able, with their aid, to present them more correct than we could possibly do this week.

ACCIDENTS.

Warren Vale Colliery Explosion.—This melancholy investigation was brought to a close yesterday afternoon, when the jury returned the following verdict:—"We find that the bodies and bones which have been viewed were accidentally killed by an explosion in the Warren Vale Colliery, in the parish of Rannish, in the county of Devon, the occupation of Messrs. Charlesworth." The verdict was accompanied by the remarks:—"The jury, after a long and painful investigation on the unfortunate persons who lost their lives in the Warren Vale Pit on the 20th December, having a verdict of 'Accidental Death,' feel that, although there is not sufficient evidence to return a verdict of manslaughter against any particular person, we should be our duty if we did not accompany our verdict with an expression of our approbation of the loose manner in which the works appear to have been conducted above pit. We further heard the instructions hitherto given to the men adequate to the proper supervision and safe working of them; and it certainly appears to us that it is very desirable that there should be some stringent rules and regulations at every colliery for the better and safer working of the coal mines; and that the proprietors of every mine ought to be held by the Legislature responsible for the efficiency of their agents and superintendents. We express our thanks to the Government Inspector, Mr. Bram, and other witnesses, for their valuable assistance, which has so materially assisted us in this painful inquiry."

Ward's Colliery.—As a "handful" of men and boys were being lowered down one of the Lord Ward's Trough Pits Colliery, an elderly man, also engaged in the pit, but not aware of the immediate proximity of the pit's mouth, fell down the shaft.

and in the fall his body striking with great violence the descending skip, two of them (a young man and a boy) were knocked out, and precipitated to the bottom of the shaft; the bodies, on being brought out of the pit, were found to be badly mutilated.

Bossarne Mine.—A miner, named Fish, was much injured by a fall of earth.

Crane and Bessons Mine.—Mark Smith and his two sons were killed, and considerable damage to the works occasioned, by the bursting of a boiler.

Walsell.—W. Dean was killed by a stone striking him in a stone-pit at Daw End.

Silston.—P. Saunders was killed by a fall of coal at Sir H. St. Paul's, Willingsworth Colliery.—A. Rowland was killed in a pit at Moss Bank Colliery.

Current Prices of Metals, Stocks, & Shares.

METAL MARKET, London, January 2, 1852.

ENGLISH IRON.	per ton	ENGLISH LEAD.	per ton
Bar, bolt, & square, London	£4 17 6-0 0	Sheet	16 8-16 10
Nail rods	5 17 6-0 0	Shot	17 10 0
Hoop	6 12 6-17 6	Pipe	18 0 0
Sheets (single)	7 7 6-12 6	Red lead	19 10 0
Bars, at Cardiff & Newport	4 7 6-4 10 0	White ditto	25 0 0
Refined metal, Wales	3 0 0-3 0 0	Patent shot	21 0 0
Do. anthracite	3 10 0	FOREIGN LEAD.	
Pigs in Wales	3 0 0	Spanish, in bond	15 17 6
Do. do. forge	2 5-2 10	ENGLISH TIN.	
Do. No. 1, Clyde, net cash	1 18 0-1 19	Block	4 9 0
Blowitt's Patent Refined Iron	3 10 0	Bar	4 10 0
Do. do. for tin-plates, boiler plates, &c.	4 10 9	Refined	4 12 0
Stirling's Patent in Glasgow	2 10 0	FOREIGN TIN.	
Toughened Pigs in Wales	3 10-3 15	Banca, H. C.	4 4-5
Staffordshire bars, at the works	5 5 0	Straits	4 2 6-4 3 6
Rails (Staffordshire)	5 0-5 5	TIN-PLATES.	
Chairs (Clyde)	4 0 0	IC Coke	per box 1 4 0
FOREIGN IRON.		IX Charcoal	1 8 6
Swedish	11 0-11 10	IX ditto	1 14 6
CCND	17 0 0	SPELTER.	
PSI	—	Plates, warehouse	per ton 15 7 6
Gourieff	—	Ditto, to arrive	15 12 6
Indian Charcoal Pigs in London	5 10 0	ZINC.	
FOREIGN STEEL.		English sheet	per ton 20 0 0
Swedish keg	15 0 0	QUICKSILVER	per lb. 3s 6d.
Ditto faggot	15 0 0		

Terms.—a, 6 months, or 24 per cent. dis.; b, ditto; c, ditto; d, 6 months, or 3 per cent. dis.; e, 6 months, or 24 per cent. dis.; f, ditto; g, ditto; h, ditto; i, net cash; j, 6 months, or 3 per cent. dis.; k, net cash; l, 3 months, or 14 per cent. dis.; m, ditto; n, ditto; o, ditto; p, ditto; q, ditto; r, ditto; s, ditto; t, ditto; u, ditto; v, ditto; w, ditto; x, ditto; y, ditto; z, ditto.

Gold-blast, free on board in Wales.

Bar-iron.—Sales to some extent have been made at low prices; about 1000 tons have been sold at 41. 15s. delivered in London.

STAFFORDSHIRE IRON is in fair request for home consumption, but the demand for shipment continues very limited.

SCOTCH IRON have undergone a slight reduction in price this week; transactions have not been large. Orders for G. M. B. have been easily executed at 38s. The market closes flat at 37s. 6d. for mixed Nos., and 38s. for No. 1.

SPELTER continues improving in price; about 150 tons for spring shipments, sold this week at 15s. 12s. 6d. per ton. Holders are asking 15s. 7s. 6d. to 15s. 10s. on the spot. The general opinion of the article is favourable.

COPPER.—Without alteration; the frequent arrivals of South American lead ready produce.

BRITISH TIN.—A further advance this week of 3d. per ton has been effected. Banca and Straits tin also continues advancing. This metal looks well; we have, however, no new transactions to report.

TIN PLATES are firm at the quotations.

GLASGOW, JAN. 1.—The statements of the stocks of pig-iron here being heavier than last year (though not larger than last year, when the various stocks in foreign and distant markets are considered), has flattened the market, and raised Nos. good brands, free on board here, cannot be quoted currently above 37s. 9d. to 38s. per ton cash, and Gartsherrie 1s. per ton more.

LIVERPOOL, JAN. 1.—Bar-iron in Wales, at the beginning of last year, ranged from 41. 17s. 6d. to 51s., and throughout the year, with slight variations, has dwindled down to our quotations. Manufactured iron, generally, has been in fair demand for exportation and the home trade, but the excessive production has kept prices low and unremunerative.

SCOTCH IRON, at the commencement of last year, was 45s. per ton, free on board at Glasgow, and steadily declined to 38s. in August, fluctuating between that price and 41s. till the end of November, when, in consequence of holders becoming ready sellers, the price began to decline, which was hastened by the French revolution and the failure of two firms in Glasgow connected with the trade, and has continued slowly to droop to our quotations. We find it impossible to arrive at the actual stocks in Scotland, and therefore leave it to those who profess to know; but we may state they are fully 250,000 tons, or about the same as last year. The production in 1851 has, no doubt, been very great—nearly 600,000 tons; but this has been absorbed by the consumption in Scotland (yearly on the increase), and by unusually large shipments, these being 140,547 tons in excess of 1850. The stocks at Runcorn and other depots in England are about the same as last year at this date. Copper continues in good demand for home consumption, and prices are very firm. The several lots of Foreign which have arrived have met ready sale at full rates. Spelter has experienced a further rise in price, 150 tons having been sold as high as 15s. 12s. 6d. per ton. Holders are firm. British tin has advanced 2d. per ton; and, being scarce, sellers will only dispose of small parcels to supply immediate wants. Foreign tin also has risen in price. Tin-plates are quoted somewhat lower, with little active demand. Lead is without alteration, demand limited.

MINES.—The cause alluded to in our summary of last week (the holidays) yet contributes to limit the amount of business dealings in and out of the Mining Exchange; but there is still a considerable inquiry for and transactions in shares of every class—indeed, the growth of this interest becomes every day more perceptible, assisted as it is to so important an extent by the abundance of capital, and the absence of any particular disturbing causes, either political or domestic. The better organisation of the business, generated by its increase, has gradually established a degree of confidence in these securities, and in dividend mines in particular, quite unknown to former times. It is, therefore, not perhaps saying too much to predict that, the status of favourable circumstances remaining undisturbed, there is to follow a large augmentation of mining business, which, we trust, will be tempered with the caution required to render it satisfactory and profitable in its results. Speculative mines have been dealt in, but not largely.

In the Metal Market.—Copper fully maintains its position—ready sales and firm prices: all arrivals from South America and elsewhere are eagerly sought for.—Lead remains stationary, without much doing.—In Tin, a further advance of 2d. per ton has taken place, the demand exceeding the regular supply, and scarcely any stock on hand. Banca and Straits have gone off freely at an advanced price, and the market has a very healthy appearance.—Plates are firm at the quotations.

In the Bullion Market.—Mexican and South American dollars, buyers at 4s. 11d. per oz. Bar silver containing gold, all gold above 5 grs. in the pound to be paid for, 5s. 1d. per oz. standard. Bar silver without gold, 5s. 0d. per oz. standard. Bar gold, 77s. 9d. per oz. standard.—Fine cast silver, 5s. 5d. per oz.

In another page we publish the annual statement compiled by our correspondent, Mr. W. H. Cuell, which presents a pretty complete epitome of what may be termed productive mining. Mr. Cuell says:—

"In comparing the table with that of the preceding year (*Mining Journal*, Jan. 14, 1851), the following results present themselves:—

quotations. We find impossible to arrive at the actual stocks in Scotland, and therefore leave it to those who profess to know; but we may state they are fully 320,000 tons, or about the same as last year. The production in 1851 has, no doubt, been very great—not less than 690,000 tons; but this has been absorbed by the consumption in Scot-

As a careful analysis and review of the Devonshire and Cornish Mines (which agrees with these statistics) appeared in your last week's *Journal* any detailed remarks which might be made on the above table is rendered superfluous. Those marked with an asterisk have made calls after commencing dividends: they are—Trelawny, Herodsfoot, and Wellington; which would suggest the propriety of adventurers weighing well the policy of making dividends without seeing their way clear of continuing them; and the necessity of keeping a fair balance in hand for contingencies, to which every mine is liable. The dividend in Calstock United, we are informed, was made principally from returns of sulphur. The mine was set on ostensibly for copper; and as we have not heard of her selling any of that metal, tin, or lead, the question for the shareholders' consideration is—Can they make dividends on the returns of sulphur?

During the last quarter of the past year, the repeated calls has partly been the occasion of several mines stopping, and many more will do so in the present there is little doubt. It is far better to assist in keeping on those of good promise than add to the number of new adventures, and then not furnish the funds absolutely required for their full prosecution.

The calls over dividends this year are to a very serious amount, and the results arising from them, at present, not at all proportionate. It is true, a great amount has been expended for machinery, necessary for the development of young mines, but I would strongly recommend (and I do it more confidently, the same view being taken by men more competent than myself) the sinking deeper previous to driving and exploring on lodes, or rather branches, at shallow depth and in doubtfully productive

strata. It has been said, "Those that would seek for pearls must dive below," and I would fain believe the same will apply to mining generally.

It is true, week after week might go by, and the reports be of that monotonous character that the jobbers would regret and condemn this system of working; but depend upon it the adventurers, in the absence of reading these reports, would be the more pleased by being relieved from additional calls upon their pockets. Time, patience, and money, ever has been, and always will be, required for legitimate mining, and all attempts to controvert that fact must fail."

DIVIDENDS MADE IN DECEMBER.

Mines.	Per share.	Amount.
Wheal Basset	£10 0 0	£2560 0 0
North Pool	7 10 0	15 0 0
West Caradon	4 0 0	1024 0 0
Wheal Seton	3 0 0	950 0 0
South Tolgus	3 0 0	768 0 0
Bedford United	0 3 0	600 0 0
Wheal Tremayne	0 10 0	512 0 0
Trompet Consols	5 0 0	500 0 0
Wheal Margaret	3 0 0	336 0 0
Levant	2 0 0	320 0 0

Total £ 9110 0 0

CALLS MADE IN DECEMBER.

Mines.	Per share.	Amount.	Mines.	Per share.	Amount.
East Alfred Cons.	£3 0 0	£3072 0 0	Henstock	0 10 0	£750 0 0
Trelawny	5 0 0	2600 0 0	Esclair Lise	0 10 0	540 0 0
Wheal Lemon	2 10 0	2500 0 0	Garreg	0 2 6	625 0 0
South Tamar	0 5 0	2250 0 0	Butterdon	0 15 0	609 0 0
East Daren	6 0 0	1800 0 0	Bryn-Arian	0 5 0	600 0 0
West Dartington	25 0 0	1600 0 0	East Buller	0 10 0	512 0 0
East W. Russell	0 7 6	1500 0 0	Levant Consols	2 0 0	512 0 0
Boringdon Park	1 0 0	1024 0 0	Trefusis	1 0 0	512 0 0
Wheal Squire	1 0 0	1024 0 0	Wheal Zion	0 2 6	512 0 0
East Boringdon	0 10 0	1024 0 0	Melin Llyn	1 0 0	512 0 0
Wheal Chiverton	1 0 0	1024 0 0	East Gunns Lake	0 2 6	500 0 0
Wheal Mary Emma	1 0 0	1024 0 0	Trelusback	0 7 4	375 9 4
Wheal Sydney	1 0 0	1024 0 0	Wheal Gennys	1 0 0	256 0 0
Wellington Mines	1 0 0	1024 0 0	South Plain Wood	0 5 0	256 0 0
Bottom Wh. Mary	1 0 0	1024 0 0	Wheal Catherine	0 5 0	256 0 0
United Mines, Tav.	1 0 0	1024 0 0	Old Brimpt	0 10 0	256 0 0
Cwm Erfa	1 0 0	1000 0 0	Kingst. & Bedford	0 5 0	256 0 0
West Towan	2 0 0	1000 0 0	Penhanger	0 2 6	101 10 0
North Wh. Robert	0 15 0	768 0 0			

Total £23,346 19 4

The ticketings for 100 tons of Foxdale (Isle of Man) lead ore varied from 9d. 6s. 6s. by the Tamar Smelting Company, to 11s. 2s. per ton by Joseph Walker and Co.

Wheal Golden sampled 63 tons of lead ore for sale this week. The bottom levels are respectively yielding 1 ton and 1 ton of ore per fm.

The Linars Mines quarterly sale of lead ore, from 1st Oct. to 20th of Dec., are—56 tons in England, at 11s. 1s. 6d. per ton; 275 tons on the mine, at 5s. 5s.; and 110 tons 8 cwt. of pig-lead, at 17s. 5s.—3868l. 5s.; leaving pig-lead on transit and in stock, 629 tons, and lead ore, 345 tons.

Wheal Trelawny sold 75 tons of silver-lead ore, at 18l. 18s. 6d. per ton, to Messrs. Walker and Co.

Wheal Golden Consols sold 63 tons of lead ore, at 11l. 17s. 6d. per ton, to J. T. Treffry.

The Callington Mines sold 39 tons of silver-lead ore to the Tamar Smelting Company, at 16l. 2s. 6d. per ton.

Great Wheal Baddern sold 28 tons of lead ore at 12l. 17s. 6d., and 19 tons at 11l. 11s., to Messrs. Locke and Co.

South Tamar Mine sold 70 tons of silver-lead ore to the Tamar Smelting Company, at 15l. 18s. 6d. per ton.

The Rhoswydol and Bacheiddon Mines sold 22 tons of lead ore, at 9l. 16s. per ton.

The Dyfnwgm Mines sold 6 tons of lead ore, at 9l. 18s. per ton.

Drigglth Mine sold 18 tons of lead ore, at 11l. 15s. per ton.</

costs being about 800*l.*, and the returns 700*l.* a month. Capt. Martin advises driving the 190 east on Dunkin's lode, and the sinking of flat-rod shaft on North Tincroft lode as fast as possible, "having evidently to go in depth to find a valuable lode."—Tincroft Mine, towards the boundary, producing a quantity of ore.

The Mining Company of Ireland's usual half-yearly meeting was held in Dublin on Thursday (Mr. James Perry, one of the directors, in the chair), when the secretary (Mr. Allen) read the report and statement of accounts, by which it appeared that the result of the workings was a profit of 149*l.* 6*s.* 4*d.*, exclusive of 195*l.* 8*s.* 2*d.*, expended in prospective improvements at the Knockmahon and Laganore Mines, and that the present appearances of the mines generally were decidedly improved, especially at the Knockmahon Mines, where a fair profit was now being realised. It also appeared that 5000 tons of the old stock had been sold at the Slieveadagh Collieries, exclusive of the quantity raised, and that from the preparations of the soil, it was confidently hoped the sales would considerably increase next spring. It also adverted to the directors of the Limerick and Waterford Railway Company having increased the carriage on the produce, and had stopped the traffic on their line; but it was hoped they would reduce the rate, and restore the trade. We hope to give more detailed information respecting this company, which has been the means of giving such considerable employment in Ireland for the last 28 years, in our next publication.

At Brynall Mine quarterly meeting, on the 30th Dec., the accounts showed—Balance from last account, 110*l.* 8*s.* 4*d.*; ores sold (less dues), 118*l.* 7*s.* 9*d.* = 199*l.* 16*s.* 1*d.*—Labour cost, Sept., 221*l.* 19*s.* 9*d.*; Oct., 217*l.* 17*s.* 5*d.*; Nov., 229*l.* 13*s.* 10*d.*; merchants' bills, 77*l.* 10*s.* 7*d.*; carriage of ores, 126*l.* 5*s.*; leaving balance to next account, 429*l.* 9*s.* 6*d.*; from which has to be deducted the cost of crusher, estimated at 150*l.*; therefore no dividend was declared. Mr. Edmonds was added to the finance committee. Sixty tons of lead ore were sold on the day previous, to Messrs. Sims, Williams, and Co. at 9*s.* 5*d.* per ton. The 15 fathom level has been driven east 7 fms. this month, through good ore ground; in the present end, the branch of ore is solid, from 8 to 10 in. wide. No. 1 stopes will produce 1½ ton per fm.; No. 2, about 2½ tons; No. 3 is rising upwards, and producing excellent work; Nos. 4 and 5 are cutting down the north part of the lode, which has been left standing for 40 fms. in length, east of the engine-shaft, and will yield 1½ ton of ore per fathom. The 7 fm. east will turn out nearly 1 ton per fm.; it is nearly under the rich stopes they had in the 15. Bishop's rise west is worth 2 tons per fm., and so is Hill's; altogether, the mine is progressing in the most favourable manner, and likely to resume the paying of dividends very shortly.

At North Tamar Consols general meeting, held last week, the accounts showed a balance in favour of the adventurers of 290*l.* 3*s.* 1*d.*. It was resolved that Capt. Hamby's salary be 5*s.* 6*d.* per month, and that he immediately proceed in working the mine effectually, by sinking the engine-shaft and exploring the lode in the adit level south. A pitch in the back has been set at one-half tribute; the shaft is down 10 fms. under adit; on sinking 7 to 10 fms. deeper they expect to have the lode in the shaft; in the summer season, by the aid of a whim, they think it could be done, but it is doubtful in the winter, without the aid of steam.

At Yeoland Consols Mine meeting, on the 29th Dec., it was resolved to forfeit the shares of several persons in arrears, unless their calls were paid within 10 days. Daws' engine-shaft is down to the 44 fm. level, where they are expecting to cut a tin lode, and afterwards a copper one; westward the lode is large, and yields about 2 cwt. of tin per 100 sacks. At Roborough Downs, a new 30-in. rotary steam-engine, 12-horse power, and flat-rod for pumping have been erected. The engine-shaft is down 12 fms. below the adit. During the past month, they have only raised 3 tons of tin; but they expect a much larger quantity for the time to come.

At Penrill Mine meeting, on the 30th Dec., the accounts showed—Call, 1000*l.*—Labour costs for one year to end Nov., 313*l.* 15*s.* 5*d.*; merchants' bills, 96*l.* 8*s.* 3*d.*; leaving balance to next account, 89*l.* 16*s.* 4*d.*. It was resolved to apply immediately for the grant of the western ground. The shaft is sinking down to the 20, which has passed through 6 fms. of good ore ground. The water, however, is too quick to be drawn by barrels.

At Whetl Lemon meeting, on Dec. 26, the accounts showed—Balance last account, 606*l.* 15*s.* 4*d.*; August labour cost, 178*l.* 14*s.* 3*d.*; September, 111*l.* 2*s.* 1*d.*; October, 105*l.* 17*s.* 9*d.*; Nov., 93*l.* 11*s.* 1*d.*; merchants' bills, 634*l.* 3*s.* 2*d.*; new 60-inch cylinder steam-engine, 1675*l.* = 3404*l.* 14*s.* 6*d.*. Less call in Sept., 1000*l.*; leaving balance to next account, 2404*l.* 14*s.* 6*d.*. A call of 2*s.* 10*d.* per share was made to discharge the same.

At West Wheel Jewel special general meeting, on Tuesday, the resolution passed on the 8th Dec., for the dissolution of the company, was unanimously confirmed, and the directors and committee were requested to dispose of the property forthwith by public auction, and divide the net proceeds (after discharging every liability) among the proprietors therein, ratably, and according to the number of shares held by them respectively.

At Prince Albert Mine special general meeting, on the 30th Dec., the reports of Capt. Davies and Carthew were highly satisfactory, and it was resolved that the set be consolidated with that of the adjoining ground, under the title of Prince Albert Consols; and that to raise the capital for the machinery necessary to work the same effectually, 1024 new shares, of 2*l.* each, be issued in four equal instalments of 10*s.* each.

At Alfred Consols, the lode in the 90 fm. level, east of Field's engine-shaft, is valued at 90*l.* per fm.; No. 3 winze, sinking below the 80 fathom level, 40*l.* per fathom—expecting an improvement; and the tribute department is in a highly satisfactory state.

At Cabert Silver-lead Mine, a rich bunch of lead ore has gone down from the 25 fathom level; this level west is in a good branch of lead, and looking highly promising. There is every indication of the deeper levels proving productive.

At Keswick Mine, the lode is very much improved in the Salt sump stopes, which now yields 25 cwt. of lead ore per fm.

At Lewis Mine, they expect to sample for Dec. month 27 tons of tin ore. The levels generally are opening tribute ground.

At Tamar Silver-lead Mine, in the 205 fm. level they have a lode 1½ ft. wide, 6 inches of which is very rich work; and at Spurgin's shaft the 175 south is good saving work.

At Butterdon Mine, the shaft is sunk to the 50; and the cross-cut at that level commenced to cut the lodes.

At Calstock United, they have cut into a lode 10 feet wide, principally mundic, with a large stream of water issuing from the south part. The water has abated very considerably in Harvie's new shaft.

At Castle Dinas, the wheel will be ready to work in a very short time; they have raised a pile of stuff of good quality. Brunton's lode appears to offer every inducement for an effectual trial of it.

At Cwm Erfin, the rise over the stopes in the 10, on the north lode, is yielding 15 cwt. of silver-lead ore per fathom. They expect 28 tons for December produce.

At East Daren Mine, the dressing of ore progresses well; they estimate January sampling to amount to 50 tons of ore, and both the stopes over the 10 and 20 are yielding 4 tons of silver-lead per fathom.

At Esqair Lee, notwithstanding the interruption of Christmas holidays and the weather, they expect next week to sample 20 tons of ore.

At Tywarthayle, the Clarence lead lode in the adit south has produced in the last week 5 cwt. of lead ore per fm.; the 23 north from 3 to 4 cwt.

At Bolenow Mine, the engine went to work on Tuesday last.

At Wheal Golden, in the 97 north of Thorne's shaft, the lode is 15 in. wide, yielding 19 cwt. of lead ore per fm.; south, 10 cwt. The other parts of the mine are yielding fair returns, and 63 tons of ore have been sampled. Penbale engine has forked the water to the 20 fm. level.

At Wheal Zion, owing to abundance of rain on the 21st December, the stream of water broke into Lemon's shaft and completely inundated it; and when the springs go back, they hope to resume working. They are taking out foundation for one of West's 30-inch cylinder steam pumping engines, which will be set to work with all expedition.

At West Towan, the shaft at Kernick Point is down to the 15 fathom level, and a cross-cut gone out north to cut Taylor's lode, which in the winze is 4 ft. wide—mundic, spar, and spotted with ore. In the 25, west of Caroline's, the lode is 3 ft. wide, very promising, almost solid mundic, showing a small portion of tin; the eastern end is 4 ft. wide, lode producing little tin. The 15 west is a large and kindly lode for tin, and will be wrought at a low tribute. In the 20 cross-cut another lode has been cut, letting out a quantity of water. The tribute department progresses spiritedly, but water is scarce for stamping.

The Ecton Mountain Mining Company has, we understand, been formed, in 1100 shares, of 10*l.* each. The old shareholders take 564 paid-up shares, and the remaining 536 have been subscribed for by a select number of city capitalists. On the day of taking possession, a new lode, 6 feet wide, with good bunches of lead ore, was discovered. This mountain has produced to former adventurers upwards of 1,000,000*l.* sterling clear profit.

A course of rich lead ore has been discovered at the Hennock Mine, in the 80 fm. level, two tons to the fm. The lode is 14 ft. wide, and is beginning to turn out quantities of lead. It is the same lode as the Messrs. Williams are so successful on in the adjoining Exmouth sett.

We have again to notice the request of sundry correspondents (who assure us they are shareholders in the respective mines) that we would alter the price paid upon the undermentioned mines, showing that the following calls have been made, of which we had no prior intelligence:—Molland, 10*s.*; Wheal Uny, 1*l.*; Great Wheal Alfred, 2*l.* 10*s.*; and North Buller, 22*s.* 6*d.*—making, altogether, 4796*l.*

During the week transactions have taken place in Alfred Consols, West Providence, West Caradon, Devon Great Consols, West Camborne Consols, Merilyn, South Tamar, Wheal Venton, North Tamar, Great Bryn, Galt-y-Maen, St. Aubyn and Grylles, Trevelyan, Warleggan, West Polgoth, Wicklow Copper, Wheal Robins, Calstock United, Wheal Trewane, and Mining Company of Ireland.

In Foreign shares, transactions have taken place in Cobre, Santiago, and St. John del Rey.

The Californian gold mining share market has been comparatively neglected this week, and for the last two or three days prices have shown some little weakness, and the rates of premium have, in most instances, been slightly reduced. The latest quotations are as follows:—Agua Fria, ½ to ¾ prem.; Nouveau Monde, ½ to ¾ prem.; Golden Mountain, par to ½ prem.; Ave Maria, ½ to ¾ dis.; West Mariposa, ½ to ¾ dis.; Anglo-Californian, ½ to ¾ prem. Much interest has been excited by the consignments to this side of about 42 tons of Californian auriferous quartz, which has been on view during the week on the premises of Messrs. Davies, of Gracechurch-street. The specimens are of various degrees of richness, picked portions being valued at the rate of 7000*l.* per ton, whilst, for the great bulk of the quartz, it is thought that 100*l.* per ton would be a sufficient estimate. This consignments is of peculiar interest, as it affords an excellent opportunity for learning what description of machinery is best suited for the effectual and most economical extraction of the precious metal, and may give some idea of the degree of success that may eventually attend Californian gold quartz mining. Although greater economy will, doubtless, be effected in the future transmission of gold quartz to this country, the result of the experiments now going on may also serve to decide the question as to whether the gold ought to be extracted in California or in England, where the mechanical and scientific means are so much greater.

Monday next has been fixed on as settling day for the shares of the English and Australian Copper Smelting Company, which are quoted ½ to ¾ prem.

British Australian Gold Company's shares are worth ½ to ¾ premium. The Linares Mining Company have received advices from Mr. Henry Thomas to the 20th Dec. Buena Ventura winze, sinking below the 45, in advance of the end, is worth 4 tons of ore per fm. The stopes east in the 55 are worth 3 tons per fm. The tribute pitches are looking well, and the labourers breaking a considerable quantity of ore.—Lead weighed in, 57 tons 6 cwt.; total in stock, 306 tons 14 cwt. Pig-lead smelted, 24 tons 2 cwt.; total in stock, 569 tons.

At Swansea, the arrivals include—from Rivasdella, 160 tons of copper ore; from Cuba, about 500 tons of ore.

HULL, THURSDAY.—Our correspondents (Messrs. T. W. Flint and Co.) state that the chief feature of the week is an increased demand for the shares in South Tamar and Merilyn. St. Aubyn and Grylles remain prominently firm, sellers being very shy of parting with this stock. A few of the heavier shares would find buyers, and they think they notice a disposition to embark more freely in the non-dividend paying mines.

THE SCOTCH IRON TRADE.

December, 1850, closed with rather favourable prospects, and January found the market firm, with the price of pig-iron 44*s.*; expectations of further improvement gradually gave place to lower prices, which, by the latter end of March, had receded to 4*s.* for mixed numbers and 46*s.* 6*d.* No. 1 these rates continued, with little variation, till 1st August. From that date, the value oscillated between 39*s.* 6*d.* and 38*s.* 6*d.*, mixed numbers, till Nov. when, under speculative influence and operations, the price advanced to 48*s.* and 46*s.* 6*d.* Immediately on this point being attained, some additional commercial irregularities occurred, which, combined with the subsequent state of political affairs in France, have since depreciated the value of this article to 37*s.* cash for mixed Nos., makers' warrants, free on board; and outside sales have been reported on terms even less satisfactory. This is the nearest approach made to the unparalleled depression prices of 1843-4, when best brands of pig-iron were sold at 35*s.* and 36*s.* cash, free on board. The average price of 1851 is 40*s.*, against 44*s.* 4*d.* in 1850. The extreme figures it touched these years are 48*s.* and 37*s.*, and 50*s.* and 41*s.*, respectively.

The peculiar aspect which has for several years distinguished the Scotch pig-iron trade cannot fail to recall particular attention to the features which it now discloses, nor will a due consideration of these escape the conclusion that, however much and long the course of any trade may be disarranged by speculation and fictitious credit, the principle of demand and supply will successfully assert its predominance over combination (in the present case admittedly wide), attempting to control and act independently of it. This is amply demonstrated in the late disastrous consequences to parties connected with speculations in pig-iron, as well as in the low scale of value this article now bears as a marketable commodity.

The stock at the various depots in England barely reaches an average, and there appears no reason to doubt the universal belief that it is remarkably low throughout foreign markets. In this locality there is, however, a considerable increase over 1850; and when we reflect on the additional production of 1851, it is a matter of surprise that the actual stock is so little augmented. As showing the rapidly increasing rate of consumption, I need only refer to the smallness of the transmarine stock, and glance at the enormous extent of exports of this staple in 1851—452,758 tons, against 324,659 tons in 1850. This cannot be viewed otherwise than gratifying, and we must place to the same account the absorption of the larger proportion (fully one-half) of 145,000 tons increase of production in 1851. For this circumstance we are not a little indebted to our home and local consumption. This item would be injuriously affected by any important advance on the price of the raw material, for already the point has been reached that our maximum of foundry consumption has been reached. However this may be, we cannot overlook the fact of the discovery of immense fields of ironstone, and the erection, in other parts of the kingdom, of new works for reducing this ore. This may possibly affect Scotch pig-iron, by supplying districts hitherto dependent on Scotland; nor will the American presidential message (recommending an increase of import duty on foreign iron) be without some influence on the trade, whatever the ultimate result may be; and, till the European continent presents ominous more peaceful and prosperous than are just now visible, the trade here need not expect any impetus by increased demand from that quarter. In fine, if no decided increase of demand is destined to be experienced in 1852, neither is it to be expected that the production will be much (if at all) increased; and, if we have no important advance in the price, that we have at all events, arrived at a point beneath which it is difficult to understand where the trade could succeed in finding a standing position. Bar-iron has been remarkably steady, having varied only 5*s.* per ton throughout the whole year, and the market now closing, without animation, at 5*l.* 5*s.*, ordinary brands.—H. FERGUSON: Glasgow, Dec. 31.

PIG-IRON WORKS.		FURNACES, 31st Dec., 1851.	
	In Blast.	Out.	Total.
Gartsherrie	16	.....	16
Dundyvan	7	.....	7
Clyde	3	.....	3
Govan	4	.....	4
Calder	3	.....	3
Langloan	6	.....	6
Carabrook	6	.....	6
Glengarnock	9	.....	9
Summerlee	6	.....	6
Moukland	9	.....	9
Cottbus	6	.....	6
Omoa	4	.....	4
Shotts	3	.....	3
Castledill	2	.....	2
Blair	2	.....	2
Muirkirk	2	.....	2
Garscube	—	.....	—
Carron	2	.....	2
Devon	2	.....	2
Forth	5	.....	5
Kinnell	3	.....	3
Lagar	3	.....	3
Edgilton	4	.....	4
Lochgelly	2	.....	2
Dalmellington	3	.....	3
Portland	2	.....	2
Northdale	—	.....	—
Total	114	30	144

PRODUCTION AND STOCK.	
Stock on hand 31st December, 1850	Tons 275,000
Stock this date in stores	Tons 126,800
Stock this date in makers' hands	Tons 213,200 = 350,000

Increase in 1851.	
Furnaces in blast	Jan. April July Oct. Dec.
1848	85 85 93 101 113
1849	104 118 110 112 113
1850	116 110 75 92 105
1851	105 113 112 118 114

Production in 1851	Tons 775,000
Add stock 31st December, 1850	Tons 275,000 = 1,050,000
Shipments as above	Tons 452,758
Stock this date	Tons 350,000
Consumed for malleable iron, local and inland foundry purposes in 1851	Tons 247,242 = 1,050,000
Stock at Runcorn, Fleetwood, and other depots, represented at 300,000 to 350,000	

Malleable iron produced in Scotland in 1845, 35,000 tons; 1846, 45,000 tons; 1847, 60,000; 1848, 90,000 tons; 1849, 90,000 tons; 1850, 75,000 tons; and in 1851, 90,000 tons.

MINING ENTERPRISE—ITS PROGRESS AND PROSPECTS.

WHEAL TRESCOLL, alias the "Model Mine" (tin), is situated in Lanivet, Cornwall. It is about four miles from Bodmin, and was put to work in July, 1847. The low grounds had been from time immemorial streamed for tin, there being 16 or 17 branches running through the estate in a decomposed granite stratum. Mr. J. Webb, mining engineer, gave in his estimate that with a capital of 4000*l.*, a 40-inch cylinder engine complete, with 24 heads steam stamps (capable of taking double that number if required) could be erected, and shafts sunk to a 20 fathom level; that at a monthly cost afterwards of 500*l.* per month 900*l.* worth of the finest quality tin could be raised, thus realising a profit of 400*l.* a month to the adventurers, the mine holding out a prospect superior to even the Rocks or Beam Tin Mines, which had yielded enormous profits. Mr. Webb, in his report of January 3, 1849, states that he had "cut the B lode very rich, yielding 1 ton of tin per fathom, in very fair ground; from this we may expect a large deposit of tin." The concern at this time was in 550 shares, 4*l.* each, and were at 50 per cent. premium in the market. The next report represented the B lode worth 100*l.* per fathom, and that they should raise tin enough to pay cost; they, however, made a call of 1*l.* per share followed by another of 1*l.* in February, 1*l.* in March—making 7*l.*, and the price quoted for them in the market 20*l.*; up to which period we find no records of any sale of tin, the mine being then managed by a committee. In May, unfortunately, the boiler burst, killing one man. A 2*l.* call was made in June, the shares still fetching 15*l.* They put the 50-inch cylinder engine, to work on the 5th July, and forked the water in 30 hours, the report concluding in these significant words, "we expect to be in the list of dividend-paying mines in the course of a month or two." In August they erected a 48-feet wheel for the purpose of crushing the ore, confident, they said, that the mine would make large profits. A parcel of good quality tin was then disposed of, but we know neither quantity or price. August 25 report says, "I think there is no doubt we shall make a large profit next month: we have in three days taken from this course of tin 100*l.* worth, and dressed it for market—in fact, we have good tin ground all through, and have a rich mine in sight." The following week they sold 3 tons 4 cwt., at 56*l.* per ton, expecting a larger sampling the month after. They next report selling it at a good price, but state not the quantity, adding "when the large wheel goes to work we shall be able to return sufficient tin to make large profits." In October came a call of 1*l.* 10*s.* per share, making 10*l.* 10*s.*, and the market price of shares stood 20*l.* In December the report states "a course of tin 2 ft. big, nearly solid—we hope to make a profit this month. We are cutting plat in the 20 preparatory to driving those levels. We shall soon get the large stamps to work, after which we shall make regular profits." On the 9th Feb., 1850, the agent reports, "we have a rich tin mine, and am certain we shall be in the list of dividend-paying mines before Midsummer." A fortnight after this bottom end was reported worth 30*l.* per fathom, driving at 35*s.*, with "every prospect of paying a dividend at the Midsummer meeting." On the 16th March, 1850, they seem more burdened with water, and levels requiring timber to keep them open, than with an overflow of tin or chance of dividend, for we find them doubling the number of shares (a very significant indication), constituting them into 1100, at 6*l.* 5*s.* each, equal to a 2*l.* additional call upon the old shares, and yet they still maintained a premium in the market. On the 11th May the report says, "we have the finest course of tin sinking on south. B lode from the 10 to the 20 that was ever seen in this part of the county, the Old Beam miners say they never saw the like in Beam Mine in her best." A call of 10*s.* per share was made in June. On the 13th July the report assures the shareholders that "we shall return a great deal more tin next month than will pay cost; we shall make large profits regularly, as we have a vast quantity of tin ground discovered." On 27th July the B lode was represented worth 40*l.* per fathom, and driving at 38*s.* per fathom, expecting to sell "10 tons of best quality tin per month, which will leave a large profit—she will shortly stand A 1." On the 7th September it states, "we sold last sampling 4 tons 7 cwt. 2 qrs. black tin, at 60*l.* per ton, 311*l.* 1*s.*" On the 14th Sept., "we hope to cut some of our south lodes soon, we shall then have one of the richest tin mines in the county, and make regular profits, and no doubt pay good dividends in the spring. We shall sell a good parcel of tin this month, and a much larger quantity next. I will challenge any tin mine in the kingdom to show such sales of tin at such a price as we get here." Sold 149*l.* 7*s.* 1*d.* of unstuff the week after. The shares were at 50 per cent. premium at this time, notwithstanding letters of remonstrance hinting at the bad management—in fact, no one can for a moment say but they ought to have been down at least double the depth, exploring the lodes there, instead of playing with them, and every good stone of tin they found in the shallow levels creating new puffing reports for the shareholders, who had been so long previously led to expect dividends. This concern started as the "Model Mine," and to the extent it has been worked we confess it is a model of management and puff. The exposures in our Journal of the 21st September, 1850, would have saved the unfortunate shareholders some thousands of pounds, if parties on the spot had conveyed the proof of fallacies to us at an earlier period. There are other concerns at this time doubtless as flagrantly wrong, and we undertake to expose them, if our readers will supply us with the necessary proof requisite to do so. We have been thus communicative in the present instance, not as marking our sense of the improper doing in this one particular mine, but as a sense of justice due to our mining friends, that a flagrant example should be plainly laid before their notice, in order to create more caution on their side in all their present and future mining undertakings. In this unfortunate mine the liabilities were unregarded, the agent threatened frequently with legal proceedings; he had to receive such materials as the unpaid merchants chose to furnish, the consequence of which was constant breakages; his time being thus occupied, no plans could be properly kept of the underground proceedings—in short, every other irregularity that can be imagined attended this "Model Mine," consequently it is not to be wondered at that the parties in her lost their time and money. They expended 8800*l.*, and all the tin they sold amounted only to 2000*l.* up to Christmas last, when it got into other hands, who divided the shares into 3300, on which they have further expended the sum of 2750*l.*—making a total outlay of 11,550*l.*

[To be continued in next week's Mining Journal.]

LEAD ORES.

TICKETINGS FOR ABOUT 100 TONS FOXDALE LEAD ORE.	
Bidders.	Amount Bid.
Walker, Parker, and Co. (purchasers)	£11 2 0
Mather and Co.	10 13 0
Newton, Keates, and Co.	10 18 0
John P. Eyton	10 8 0
Sims, Williams, Nevill, and Co.	10 10 6
Tamar Smelting Company	9 6 6
Locke, Blackett, and Co.	10 0 0
W. J. Cookson and Co.	10 4 0

Sold at Bagillt, on the 29th December.	
Mines.	Purchasers.
Rhowydol and Bacheiddon	Mather and Co.
Dyffryn	ditto

Sold at Bagillt, on the 2d of January.	
Cairnmore	Newton, Keates, and Co.

Sold at Aberystwith, on the 29th December.	
Brynall	Sims, Williams, & Co.

Sold at the Mine, on the 30th December.	
Drigglith	Locke, Blackett, & Co.

Sold at the Mine.	
Wheal Trelawny	Walker, Parker, & Co.
Wheal Golden Consols	J. T. Treffry.
Callington	Tamar Company.
Great Wheal Baddern	Locke, Blackett, & Co.
ditto	ditto
South Tamar	Tamar Smelting Co.

LINARES MINING ASSOCIATION.

Sales of Lead Ores from the 1st October to 20th December.	
Tons.	Price per Ton.
In England	56 £11 1 0 = £629 4 0
At Linares	275 5 8 0 = 1343 15 0
Pig-lead in England	110 8 17 5 0 = 1994 6 0
Total amount	£2968 5 <i>s.</i>

COPPER ORES.

* The Cornish post not having arrived at our usual time of going to press, we are compelled to publish without the Ticketing Paper, and other matters received by that source. We are, of course, unable to account for the vexatious delay, but it is not occasioned by any accident.

NOTICES TO CORRESPONDENTS.

With the commencement of the New Year, we are anxious to avail ourselves of the several suggestions put forward by subscribers, in amending such parts of the Journal as may appear to require alteration; but we must not forget the old adage of "One and All," and his "Axe," for too frequent is it that in the endeavour to please "One and All," none are satisfied, while the result is "Love's Labour Lost." It will be found that some variation has again been made in our Share List, as will be the case with our Mining Reports, which, however far from perfect, will, we should hope, afford sufficient evidence that we are anxious to render our columns as perfect as possible. With the commencement of the year we cordially thank our patrons, and trust, with their assistance, to render the present volume one which shall ensure their support, as well as that of all interested in mining enterprise.

Mr. Adam Murray is at Carnarvon and its vicinity for the ensuing week.

New Safety Lamp.—In consequence of our reference to the lamp recently introduced by Mr. Elton, of Belgium, we have had several applications where it is to be obtained. Perhaps the inventor, or some of his friends in this country, will communicate the information.

"Prism" is anxious to learn how Cassandra Anna progresses, and what balance of the 10,000, deposit remains in hand for future outlay?

"J. F." (Newman-street).—The several gold companies have leases granted them by different parties, all more or less connected with Col. Fremont; those who have purchased should have ascertained the validity of the grant before they bought at a premium: no one is to be blamed but themselves. The question has now been mooted, speculation is retarded, and will be so, until a satisfactory solution is arrived at.

"Juno" asks how much per 64th share was originally expended on Boscawell Downs Tin Mine, St. Just; the dividends on which shares, to end of May, 1849, is stated at 750l. each, and the present market value 100l. Particulars thereon are solicited.

MARTY CAN MINE.—Mr. Hadley having signed his letter, it would be hardly fair to publish the communication of "Observer," more especially as avowing himself not to be a shareholder. Upon our correspondent's next visit to Wales, we dare say he will find machinery erected; and we hope, the mine prospering. We shall then be glad to hear from him.

"J. H."—Both the parties alluded to had furnished the amended particulars prior to the receipt of your communication.

"E. M." (Shrewsbury) would have an equal right to grant to dig and delve in the old as in the new lands, unless precluded by a special clause, or some other custom we are unaware of that may prevail in the locality. Without such a bar, who can prevent him? If in his own glee, his rights would be still more firmly established.

"S. S." wishes to know whether the rich silver and copper ore at Camborne Consols has been disposed of, and what it realized? The sort is well known to be a very good and extensive one; but without a suitable engine much profit cannot possibly be made.

"C. B." asks whether the Fatwork Tin Mine, St. Enoder, is now working, and to what result?

"P. P." asks why the account days for the Great Consolidated and United Mines were not held at the usual time; and when Wheel Brewer paid the last dividend, and what?

"G. H. C." wishes to know the amount of dividends per share in Phoenix Mine paid since March last, and the total per share up to this period; also St. Ives Consols.

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

The Cost-Book System.

Having repeated applications for particulars respecting the Cost-book System, we have reprinted, as a pamphlet, the paper descriptive of its principles and practice, which appeared in the Mining Journal. Copies can be procured through any bookseller or newsmen, or at our office, price 6d.

It is particularly requested that all communications may be addressed—

TO THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, acting for the proprietor.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, JANUARY 3, 1852.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

We this day present our readers with our customary quarterly statement of the weekly sales of copper ores in Cornwall, bringing it down to the close of the year, and adding the usual comparison of the results, with those of the previous quarters of the year:—

ACCOUNT OF THE SALES OF COPPER ORES IN CORNWALL,
IN THE QUARTER ENDING 31ST DECEMBER, 1851.

Date of Sale.	Average Stand.	Average Price.	Quantity of Ore.	Computed Quantity of fine Copper.	Amount of Sales.	Value of Ore to produce 1 ton of Copper.
1851.	£ s. d.	p. cent.	£ s. d.	21 cwt.	Tons cwt.	£ s. d.
October 2 ...	103 3 0	74	4 14 6	4467	317 5	20,700 11 0 65 5 0
" 9 ...	102 0 0	74	4 18 0	3095	227 12	14,896 2 6 65 9 0
" 23 ...	98 12 0	94	6 7 0	3546	327 16	22,587 3 6 68 18 1
" 30 ...	105 12 0	74	4 16 0	2271	163 4	10,998 11 6 67 7 10
November 6 ...	105 4 0	74	4 17 6	3317	240 17	16,321 2 0 67 7 0
" 13 ...	103 13 6	74	5 6 0	2911	228 14	15,620 8 6 68 6 0
" 20 ...	99 7 0	94	5 16 6	3828	343 9	16,413 3 6 67 9 0
" 27 ...	104 4 0	74	5 3 0	2999	226 16	16,390 19 6 67 17 3
December 4 ...	107 18 0	74	4 19 6	3853	272 5	16,793 11 6 69 0 7
" 11 ...	105 9 0	74	5 8 0	2895	224 3	15,676 13 0 69 18 9
" 18 ...	100 16 6	94	5 15 0	3317	280 16	19,182 0 0 68 6 3
" 24 ...	107 18 0	64	4 13 6	2002	138 16	9,470 14 6 68 4 8
Totals & averages for the quarter ending Dec. 31.	103 8 4	7.740	5 4 11	37,361	2891 13	195,951 2 6 67 15 3
Quarto quarter ending 30th Sept. 1851.	99 5 5	8.048	5 5 11	36,467	2933 12	193,066 10 6 65 16 3
Quarto quarter ending 30th June 1851.	100 15 1	7.769	5 1 7	39,702	3084 11	201,653 14 0 65 7 6
Quarto quarter ending 31st March 1851.	—	7.859	5 4 4	36,960	2897 4	192,274 11 6 66 7 3
Quarto quarter ending 31st Dec. 1851.	—	7.851	5 4 1	159,380	11907 0	782,947 18 6 66 6 3
Av. quarterly quantities & amounts for the last year.	—	—	—	37,597	2951 15	195,736 19 7 —
Annual av. for 19 years from June, 1832 to 1851.	—	7.830	5 14 5	147,031	11569 0	846,257 0 0 73 3 0

There is no great scope for comment upon this table. Upon the whole, however, it may be regarded as rather favourable to the miner; since, with a produce below that of any of the other three quarters of the year, and, necessarily, below the general average for the year, the average price of the ores for the quarter is a trifle above that for the year. The real nature and extent of this improvement best shows itself in that true standard of value—the price paid by the smelter for the ore calculated to produce a ton of copper. That price, for the quarter just terminated, is 67l. 15s. 3d., against 65l. 16s. 3d. for the Michaelmas quarter, and 66l. 6s. 3d. the general price for the year; showing an improvement of 1l. 19s. per ton of copper over the preceding quarter; and 1l. 9s. over the year's average.

We have, on two former occasions, made a remark as to the probability, or otherwise, of the recent large addition to the number of mines brought to public notice, affording a proportionate increase to the amount of ticketing sales. Considering some of those undertakings, as regards computed beneficial results, almost as much in *sublimis* as in *terra*, we may still hope, with respect to others, that, when our mining friends have had sufficient time to "sink, dam, and blast" their undertakings, that course may show itself in something

"at grass," likely to add to quantities in future sales, with corresponding benefits. We need not assure the readers of the Mining Journal, that such is our earnest wish.

We now proceed to discuss the 79th and 80th sections of the 8th and 9th Vic., c. 20. The 79th section is a continuation of its preceding, the 78th section; it provides that, if before the expiration of such 30 days, mentioned in the notice, the railway company does not state its willingness to treat with the owner, &c., of the mines, he may work the mines, or any part thereof, for which the railway company shall not have agreed to pay compensation; so that the same be done in a manner proper and necessary for the beneficial working thereof, and according to the usual manner of working such mines in the district where the same shall be situated. The same section also provides that, if any damage, or obstruction, be occasioned to the railway, or works, by the improper working of such mines, such damage, or obstruction, shall be forthwith repaired or removed, as the case may require, and such damage made good by the owner, &c., of the mines at his own expense; and also that, if such repair, or removal, be not forthwith done, or if the railway company shall so think fit, without waiting for the same to be done by such owner, &c., such company may execute the same and recover from such owner, &c., the expense occasioned thereby by action in any of the superior courts.

Section 79.—If before the expiration of such 30 days the company do not state their willingness to treat with such owner, lessee, or occupier for the payment of such compensation, it shall be lawful for him to work the said mines, or any part thereof, for which the company shall not have agreed to pay compensation, so that the same be done in a manner proper and necessary for the beneficial working thereof, and according to the usual manner of working such mines in the district where the same shall be situated; and if any damage, or obstruction, be occasioned to the railway or works, by improper working of such mines, the same shall be forthwith repaired or removed, as the case may require, and such damage made good by the owner, lessee, or occupier of such mines, or minerals at his own expense; and if such repair, or removal, be not forthwith done, or if the company shall so think fit, without waiting for the same to be done by such owner, lessee, or occupier, it shall be lawful for the company to execute the same, and recover from such owner, lessee, or occupier the expense occasioned thereby, by action in any of the superior courts.

We may here remark, that the legal value of the word "forthwith," mentioned in the above section, has been decided in the courts at Westminster to mean a "reasonable time;" and that it is not to receive so strict a construction as the word "immediately"—or, in other words, it does not mean that the mineowner is to perform or do instantly all that is required, but that he is to set about its performance directly, and do at once all that can be done; Rex v. the Ouzie Bank Commissioners, 3 A and E, 550.

The 80th section makes provision for mining communications when the mines are intersected by a railway; thus, if the working of any mines under a railway or its works, or within the distances mentioned in the section be prevented by the railway company, by reason of apprehended injury to the railway, the owner, &c., of the mines, if they extend so as to lie on both sides of the railway, may cut and make so many and such airways, headways, gateways, or water levels through the mine, measures, or strata—the working whereof shall be so prevented as may be requisite to enable him, &c., to ventilate, drain, and work his mines, provided that no such airway, headway, gateway, or water level shall be of greater dimensions, or section, than the prescribed dimensions and sections; and where no dimensions shall be described, not greater than 8 ft. wide and 8 ft. high. It is also provided, that no such airway, &c., shall be cut, or made upon any part of the railway or works, or so as to injure the same, or to impede the passage thereof.

Section 80.—If the working of any such mines under the railway or works, or within the above-mentioned distances be prevented as aforesaid by reason of apprehended injury to the railway, it shall be lawful for the respective owners, lessees, and occupiers of such mines, and whose mines shall extend as to lie on both sides of the railway, to cut and make such, and so many airways, headways, gateways, or water levels through the mines, measures, or strata, the working whereof shall be so prevented, as may be requisite to enable them to ventilate, drain, and work their said mines; but no such airway, headway, gateway, or water level shall be of greater dimensions, or sections, than the prescribed dimensions and sections, and where no dimensions shall be described, not greater than 8 ft. wide and 8 ft. high; nor shall the same be cut, or made, upon any part of the railway, or works, or so as to injure the same, or impede the passage thereof.

Our readers will perceive that the above 79th and 80th sections are almost identical in language with the 23d and 24th of the 10th and 11th Vic., c. 17 (discussed in our Journal from the 14th Nov.), which concerned mines in their relation with the formation of water-works companies. The observations which we then made upon those sections will be also applicable to these—the subjects of our present remarks.

In the year 1851, notwithstanding the "Inspection of Mines and Collieries," there was recorded in our columns the number of 494 localities where accidents in mines and collieries had taken place. In this number no less than 682 had met their death, while 246 had been more or less seriously injured, making the total of deaths and injuries 928. The deaths were from the following causes:—Explosion, 309; fall of roof, 157; fall in shaft, 103; machinery, 30; and accidents not specified, 83: while the injuries were—explosion, 149; fall of roof, 37; fall in shaft, 21; machinery, 16; and accidents not specified, 23. The smallest number sacrificed were in the months of February and April, when they were 33 deaths; the largest in March and December, when they were respectively 106 and 107. Taking the average, it would seem that each month there is within a fraction of 57 men killed and 23 injured, and this even though the miner has received the inspection enactment. On referring to the accounts compiled for 1850, we find that the number of localities was 464, being 30 less than in the past year—deaths, 632, being 50 less; injuries, 273, being 27 more than in the past year: total of deaths and injuries, 928, being 905 in 1850, consequently 23 less, and these are the fruits we have received from Sir GEORGE GRAY's incompetent enactment. Long previous to its introduction, in common with others, we had practically studied the question, had pointed out its difficulties, and the means to avert, in a great measure, if not remedy, the crying evil. Several of the most talented and practical men of the country were examined, whose evidence will be found in the ponderous blue-book which was published on that occasion. Notwithstanding all this information, we find that, far from averting the evil, the numbers have in every way increased.

We shall not take up the time of our readers by again expressing our opinion as to what course should be pursued; our cry has been, more inspectors and sub-inspectors; competent men will be found to take those situations; and though they may not be sufficient prizes to tempt the smaller fry of the "family cliques," did they possess sufficient brains to undertake these difficult and responsible duties, it behoves all who are interested, whether as owners, viewers, or miners, to take some step to arrest this frightful work of death, which is daily making such fearful havoc in their ranks; desolating and destroying whole districts, and entailing on the survivors wretchedness, mourning, pauperism, and crime. The Legislature must be petitioned, and a better and more comprehensive measure obtained from the Whigs, should their tenure of office last till the Session commences. Our best energies shall be given to the cause, nor will we abate until the just wants of the miner are redressed by a law which will afford him greater security for life and limb. Within the last 10 days, it must be in the recollection of our readers, two dreadful explosions have taken place; the one at the mines of Mr. HALIBURTON, at Ince, near Wigan, where 13 persons were killed. From the evidence of Mr. DICKINSON, the Government-Inspector, it appears, that some days after the explosion he went down the pit to examine into the cause of the accident; he attributes the disaster to the old drifts, which are liable to accumulate gas, not being examined that morning. Acting upon this, the jury found a verdict to the effect that death resulted from natural causes, and here the matter drops.

At the Warren Vale Colliery, near Rawmarsh, the number of victims immolated were to the number of 50. From what we gather, we should imagine that this arose from the fall of the roof. On reading the evidence, notwithstanding the assertions of one of the proprietors, it appears to us that this colliery was very carelessly and loosely managed. From the evidence of Mr. MORTON, the Government Inspector for this district, it appears that on Monday last he examined the colliery after the explosion, with Mr. BENJAMIN BREAM, of Wentworth; Mr. T. D. JEFFREY,

of Sheffield; Mr. LOCKE, of Snapethorpe; and Mr. DAY, of Durham, who all agreed with the inspector as to the cause of the accident, and substantially corroborated the suggestions which he had thrown out for a better ventilation of the pit. In the course of the inquest, one of the jurors inquired if the inspector had power to visit all the coal-pits in his district? The coroner made the remark that Mr. MORTON had from 2000 to 3000 coal-pits in his district, which consisted of the counties of York, Derby, Nottingham, Leicester, and Warwick. He saw, likewise, the necessity of communicating with Government, with a view to the appointment of additional inspectors, in order that there might be an occasional anticipatory examination of mines, without which it would be impossible to prevent these calamitous accidents. This has been the constant idea we have always taken of the subject; and now that the local authorities have spoken, and the Government has been shamed by its own inspectors, probably some change may take place, but it will, we presume, be only an echo of its inefficient predecessor.

We think that one of the first proceedings of the forthcoming Session of Parliament should be to investigate the practical working of "The Joint-stock Registration Act," with the view of passing "an Act to amend an Act." We know of no legislative enactment of the last few years that has given rise to so much disappointment, and caused so much individual loss, as the Act referred to. That the object of the Legislature was laudable, we have no doubt. That the Legislature failed (as it too often has) in accomplishing its object, we also have no doubt. Scarce had the practical effect of the working of the Joint-stock Registration Act made its appearance, than the Legislature set about to remedy the evils it engendered. As in all cases of imperfect or incomplete laws, it was found to have increased the evil it was intended to have checked; but instead of investigating the cause of the disease, and applying a remedy, it passed an Act for the interment of the defunct offsprings of its own parentage, in the shape of a "Winding-up Act," and left unprovided a remedy; the consequence of which has been, that the mortality has been so great as to leave an impression that the whole family are diseased. We would require no better evidence to convince our legislators that something should be done, than to witness the "coroner's inquest," held at the Masters' Office, on one of these defunct offsprings of the Joint-stock Registration Act. No one can be found to own it—all deny the "soft impeachment;" and "no child of mine" seems to be the universal game played in the Masters' Office, until the fact is proved of having contributed to its support in the shape of calls, when the brand of paternity is at once applied, with all its concomitant disagreeableness. What a sad contrast this to the scene of ushering into existence this unhappy offspring. Then all went merrily as a marriage feast. Not a whisper was heard as to its legitimacy. With the announcement of its birth came, also sanctioned by an Act of Parliament, a certificate that it had been "provisionally registered," and the unwary public rushed to become sponsor to so promising a child, lured by the announcement that "no responsibility" would ensue; and they were "blessed in thus believing," until the law, like Shylock, demanded "his pound of flesh," and then, and not till then, the consequences became apparent of the responsibility thus incurred; and all the ingenuity of our learned civilians could not discover a "saving clause," like Portia; and "thysself shall see the act," is all the consolation that our bankrupt merchant (the public) obtains.

We think the Legislature was wrong when it sanctioned the Winding-up Act. We think that it should have investigated the cause which led to the necessity of passing such a measure, and applied a remedy for that cause, instead of one for the "effect;" and we are of opinion that so long as such facilities as at present exist for obtaining the registration of companies under the Joint-stock Act, with the present liabilities of shareholders, which few, if any, of the parties becoming shareholders are aware of until too late, so long will a premium be held out for the organisation of a class of companies it was the object and intention of the Legislature, when passing the Joint-stock Companies' Act, to have put a stop to. We purpose, in a future article, to go more fully into this question, feeling as we do that it is one affecting not only individuals, but the community at large.

If, at the commencement of the bygone year, some of the more timid were apprehensive that the influx of gold from California would tend to derange commercial affairs, and render an alteration in the currency necessary, how much more now have they not reason to still cherish those fears? Not only has an extensive organisation taken place to further and systematically develop the riches of California, but gold fields as extensive as those have been discovered in our colonies; and by this time there can be no doubt that a great quantity is raised, and ready for shipment to the mother country. However sceptical people may be in considering that numbers of accounts received from the colony are overdrawn and exaggerated, yet no one has denied the existence of that which has been so strongly affirmed both by private individuals and the reports of the Government officers.

The discovery of gold in Australia is the most important fact that has occurred in its history since its first settlement to the present time; the labours of the colonist have ample room to work in prosecuting the industrial and agricultural resources of the vast continent which he has selected as his new home; it, therefore, follows that, for mining purposes, little of the colonial capital is available, it being absorbed in interests which require but a small outlay and give a quick return; it must, therefore, be drawn from the mother country, for which intent several English companies have been formed. The first in the field was the Australian Auriferous Ore Reduction and Gold Mining Company, which has been followed by some others, though there is yet ample room for the formation of others. This company has the two-fold advantage, that it not only is a mining company, but, as its name imports, combines the process of reduction: this, together with the security afforded to life and property under British law, has tended in a great measure to inspire confidence in the successful issue of the undertaking. The shares have not yet been allotted; and, judging from the short time allowed for further applications, we should imagine that the lists are nearly full. On January 12th the lists will be closed; as soon as possible afterwards the shares will be allotted, and operations will commence forthwith. A competent mining manager will be selected, together with an efficient staff, so that no delay may arise. We shall watch with considerable attention the progress of the company, for upon its success will depend the fate of similar speculations. As it was first in the field, we trust it will not be the last to reap the reward.

We are requested by Mr. MURCHISON to state, that he has received seven reports from the working miners at Wheal Crebor, all of which do the writers much credit, and no time will be lost, consistent with a due consideration of their respective merits, in awarding the prizes to the successful competitors. We may add to this, that at the general meeting of adventurers, held yesterday, the chairman, after introducing the subject of the prizes offered to the underground men employed on the Crebor Mine by J. H. MURCHISON, for the most feasible and practical reports upon the same, moved, and it was resolved unanimously, "That this meeting is desirous of expressing its high sense of the laudable efforts made by Mr. MURCHISON for advancing the position and interest of the working miner generally, and especially those employed at the Crebor Mine; and this meeting considers that the thanks of the company are due to that gentleman for having selected this undertaking for the reports."

The Arctic arrived yesterday, bringing 75,000l. from New York; there has been no news of commercial importance. Dates from California, a fortnight later, via Nicaragua, and several days in anticipation of the regular mails, had been received. The rains had at length commenced, and increased returns of gold were expected forthwith from the large quantities of earth that had been heaped up in anticipation during the dry season. Nothing further had transpired regarding the movement to the Sandwich Islands, except that an additional company of Californians, who were preparing to leave, had postponed their departure. From Oregon a party had set off for Queen Charlotte's Island, in search of the gold which has lately been reported as in existence there.

STATISTICS OF COPPER, LEAD, AND TIN.

The sale of Foreign, Welsh, and Irish copper ores at Swansea during the quarter ending 1851, amounted to 7359 tons, realising the sum of 99,708 15s. being a decrease, as compared with the quarter ended Sept. 30, of 3707 tons, and in money 35,667 14s. 6d., but an increase in the average price of 11. 6s. 2d. per ton. As compared with the corresponding quarter of 1850, the decrease is 1784 tons, and 14,296 12s. 6d., with an increase in the average price of 11. 1s. 6d. per ton. The returns for 1850 and 1851 show a great falling off in the supplies during the latter year, the quantities being as follows:—

Tons of ore.	Amount.	Average price.
1850..... 41,713	£249,376 14 6	£13 3 4
1851..... 39,838	£224,222 10 6	12 7 3
Decrease..... 1,875	£ 25,153 15 0	£ 0 16 1

The comparative quarterly returns are as follows:—

Quar. ending	Ore (21 cwt).	Amount.	Av. price.
Dec. 31, 1851.....Tons 7,359	£ 99,708 15 0	£13 10 10	
Sept. 30, 1851..... 11,066	135,376 9 6	12 4 8	
Decrease..... 3,707	£ 35,667 14 6	Inc. £ 1 6 2	
Quar. ending	Ore (21 cwt).	Amount.	Av. price.
Dec. 31, 1851.....Tons 7,359	£ 99,708 15 0	£13 10 10	
Dec. 31, 1850..... 9,143	114,005 7 6	£12 9 4	
Decrease..... 1,784	£ 14,296 12 6	Inc. £ 1 1 6	

These returns show that our importation of copper ores have been less during the past than for many years, and may, in a great measure, be accounted for by the establishment of smelting-works in South Australia—thus precluding, to a great extent, the necessity of exporting the ores of that colony to England. As a case in point, we may just notice that in the quarter ended the 30th June, 1849, the sales by ticketing at Swansea amounted to 14,925 tons, realising 206,206 8s. 6d., and an average price of 13 16s. 4d.; they now do not amount to one-half the tonnage or money; 4994 tons were then from South Australia, selling for 89,154 14s. 6d., being an average price of 20 18s. 6d.—now only 679 tons, at a value of 18,908 2s. 6d. The ore from the copper mines of the Cobro Company also amounted to 6096 tons, and obtained a return of 72,494 11s. 6d., being an average price of 11 17s. 10d. per ton; they have fallen off to 2390 tons, realising 38,629 16s. 6d., and average price 16 13s. 3d. per ton.

The above-mentioned quantities of copper ores sold at the Swansea ticketings were made up as follows:—

Tons.	Amount.	Av. Price.
Foreign..... 4503	£78,490 12 6	£17 8 7
Irish..... 2632	20,303 11 0	7 14 3
Welsh..... 460	490 6 6	1 9 7
Slags..... 175	434 5 0	2 11 11
Total..... 7359	£99,708 15 0	£13 10 11

The Foreign ores were from the following localities:—

Tons of ore.	Amount.	Av. price.
Cobro..... 3990	£38,629 16 6	£15 3 2
Cuba..... 583	8,004 16 0	13 14 7
Santiago..... 478	6,517 9 6	13 12 9
Spanish..... 88	2,634 5 0	29 16 8
Havanah..... 161	1,930 4 0	11 19 11
New Zealand..... 88	739 5 6	12 11 6
Chili..... 3	27 15 0	9 5 0
Kapunda..... 442	12,292 11 6	27 16 2
Burra Burra..... 190	6,949 18 0	31 7 4
Tungkillo..... 47	655 13 0	13 19 0
Sydney..... 61	1,093 8 6	17 18 0
Bathurst..... 2	15 10 0	15 10 0
Total..... 4503	£78,490 12 6	£17 8 7

The Irish were as follows:—

Tons of ore.	Amount.	Av. price.
Berehaven..... 1779	£14,436 12 0	£ 8 2 4
Knockmahon..... 770	5,162 9 0	6 14 1
Lackamore..... 39	254 9 6	6 10 6
Cronbane..... 5	132 8 6	30 10 6
Tigrony..... 3	151 7 6	30 5 6
Ballymurlagh..... 33	130 7 0	3 19 0
Molony..... 1	15 13 6	15 13 6
Total..... 2632	£20,303 11 0	£ 7 14 3

And the slags and Welsh as follows:—

Tons.	Amount.	Av. price.
Dudley Slag..... 137	£331 6 6	£ 2 8 4
Waterloo Slag..... 38	122 16 6	3 4 9
Gyfford..... 27	281 9 0	12 15 10
Dyfford..... 27	178 17 6	6 12 6
Total..... 224	£914 11 6	£ 4 1 7

The said ores having been purchased by the undermentioned smelting companies:—

Tons.	Amount.
English Copper Company..... 1154	£14,014 5 2
Freeman and Co..... 346	3,065 8 8
P. Grenfell and Son..... 959	10,338 8 0
Sims, Williams, and Co..... 655	11,554 12 6
Vivian and Sons..... 1210	16,797 4 0
Williams, Foster, and Co..... 1430	18,132 5 10
Mines Royal Company..... 603	8,045 7 10
Schneider and Co..... 328	7,454 8 7
Low's Patent Copper Company..... 181	1,649 15 0
F. Bankart..... 241	5,846 4 6
British and Foreign..... 153	2,809 16 11
Total..... 7359	£99,708 15 0

PRODUCE OF THE PRINCIPAL COPPER MINES OF CORNWALL AND DEVON-SHIRE, FOR THE QUARTER ENDED DECEMBER 31, 1851.

Mines.	Ticketings.	Tons.	Amount.
Devon Great Consols.....	3	4797	£7,760 8 6
Carn Bros.....	3	1807	10,109 2 6
Wheal Buller.....	3	1927	9,564 0 6
Wheal Bassett.....	3	1497	9,528 4 0
Par Consols.....	6	1508	9,851 4 0
West Caradon.....	3	1171	9,240 4 0
United Mines.....	3	1983	9,205 16 6
Tineroft.....	3	1926	7,694 12 6
Wheal Saffron.....	3	1504	7,167 3 6
Fowey Consols.....	6	1156	6,681 9 6
Alfred Consols.....	3	793	5,786 2 0
Tywarthayle.....	3	1539	5,198 19 6
South Caradon.....	3	791	6,145 18 6
South Wheal Frances.....	3	603	4,544 19 0
Consolidated Mines.....	2	894	4,477 16 6
North Roskar.....	3	681	4,376 5 6
North Pool.....	3	1409	4,354 8 6
Wheal Friendship.....	3	635	4,093 4 6
Phoenix Mines.....	2	391	3,991 16 6
South Wheal Tolgus.....	3	561	3,754 17 0
Condurow.....	2	555	2,828 14 0
East Wheal Crofty.....	2	594	2,788 6 0
Camborne Veau.....	2	706	2,564 2 6
Trevilley.....	1	393	2,440 8 6
Bedford United.....	3	429	2,265 11 0
Marke Valley.....	2	612	2,085 13 6
Holmbush.....	2	408	2,002 4 0
Perran St. George.....	1	555	1,973 14 0
West Wheal Treasury.....	2	332	1,872 12 6
East Pool.....	2	553	1,815 1 6
Treavean.....	2	534	1,617 11 0
Levant.....	3	286	1,555 1 0
Treleigh Consols.....	3	284	1,473 8 0
Wheal Agar.....	3	180	1,266 8 6
Dolcoath.....	2	296	1,041 2 0
Wheal Saffron.....	3	182	950 12 6
Wheal Comfort.....	2	455	785 7 6
Hingston Down.....	1	100	735 0 0
West Jewel.....	2	106	635 8 0
West Wheal Providence.....	1	52	552 9 0
Halamaning and Croft Gethal ..	1	123	552 6 6
West Fowey Consols.....	2	107	523 9 6
Foldice.....	1	96	467 17 0
Gonsans.....	1	51	372 6 0
Wheal Unity Consols.....	1	92	356 19 0
East Wheal Rose.....	1	31	350 12 6
Botalack.....	1	40	249 10 0
Crane and Bejawa.....	1	39	325 0 0
Wheal Tremayne.....	1	81	303 16 0
East Wheal Leisure.....	1	95	299 9 0
Wheal Arthur.....	1	83	286 4 0
Pendarves Consols.....	2	60	280 0 0
Wheal Clifford.....	1	47	272 15 0
Wheal Ellen.....	1	51	243 2 0
Callington.....	1	47	232 1 6
Trethellan.....	1	66	219 9 0
Wheal Gortland.....	2	20	177 7 6
Wheal Henry.....	1	21	167 8 0

Mines.	Ticketings.	Tons.	Amount.
Priddy Wood	2	40	167 0 0
Cartbow Consols	2	45	166 14 0
West Alfred Consols	1	40	155 0 0
West Wheal Towan	1	18	151 4 0
Wheal Trebarvah	1	36	143 11 6
Cook's Kitchen	1	34	130 18 0
Wheal Prosper	3	35	129 5 6
Wheal Maiden	1	18	125 3 0
East Gunnis Lake	1	33	125 4 6
Wheal Easy	1	37	119 6 6
Wellington Mines	1	34	113 17 0
North Downs	1	25	113 15 0
Carannal	1	37	113 12 6
St. Aubyn and Grylla	1	30	109 10 0
Providence Mines	1	39	108 4 6
Richard's Ore	2	34	105 19 0
Bespryn	3	14	105 14 0
Pendarves and St. Aubyn	1	18	105 6 0
Great Wheal Leisure	1	20	104 8 0
Wheal Jewel	1	25	98 12 6
Boscawell Downs	1	12	95 8 0
Trellyn Consols	1	11	92 8 0
East Tywarthayle	1	26	91 0 0
Gustavus	1	34	81 12 0
Wheal Harriet	1	11	81 8 0
Wheal Elizabeth	1	29	79 16 0
Wheal Zion	1	31	73 10 0
Felgooth	1	12	72 0 6
Polgooth	1	19	57 12 0
South Crinns	1	18	52 5 6
Graham and St. Aubyn	1	17	50 3 0
Wheal Tryphena	1	4	46 15 0
West Trethellan	1	23	42 18 0
Wheal Rosewarne	1	4	20 11 0
British Arsenic Company	1	30	20 0 0
East Godelphne	1	14	20 1 0
Wheal Teldy	1	9	20 0 6
Wheal Mary	1	7	28 11 0
Treloweth	1	11	28 6 6
Wheal Treasury	1	9	18 9 0
Pemberton Crofts	1	4	18 0 0
Paul's Ore	1	5	18 7 6
Le Min.	1	4	18 2 0
South Wheal Speed	1	7	15 8 0
Old Crinns	1	5	13 15 0
Wheal Virgin	1	6	10 2 0
Godelphne Bridge	1	6	5 8 0
Wheal Towan	1	3	1 10 0
Total		37,361	£195,951 2 6

The undermentioned smelting companies purchased the above copper ores:—

Tons.	Amount.
Mines Royal Company..... 2180	£11,438 19 9
Vivian and Sons..... 6442	31,181 0 6
Freeman and Company..... 4420	19,298 2 9
Grenfell and Sons..... 5389	24,416 11 4
Crown Copper Company..... 119	1051 7 6
Sims, Williams, and Company..... 4699	23,107 9 7
Williams, Foster, and Company..... 8361	53,301 14 5
John Schneider and Company..... 2439	14,948 2 1
Mason and Elkington..... 2758	14,656 10 1
F. Bankart..... 714	3451 4 6
Total..... 37,361	£195,951 2 6

On comparing the above returns with the previous quarter, there is an increase of 904 tons, amounting to 2835 1s.; but a decrease in the average price of 1s. 2d. per ton. As contrasted with the corresponding quarter in 1850, there is a deficiency of 1982 tons, amounting to 14,220 16s.

The quarterly sales in 1851 are as follows:—

Tons.	Amount.	Av. price.
March 31..... 36,860	£192,374 11 6	£ 5 4 4
June 30..... 39,702	201,655 14 0	5 1 7
Sept. 30..... 36,457	193,066 10 6	5 6 0
Dec. 31..... 37,361	195,951 2 6	5 4 8
Total..... 150,380	£782,947 18 6	£ 5 4 2

The entire sales for five years, ending 1851, were:—

Tons.	Amount.	Av. price.
In 1847..... 155,985	£289,287 0 6	£ 14 10
In 1848..... 147,701	720,090 17 4	4 17 5
In 1849..... 146,335	763,614 19 5	5 4 4
In 1850..... 155,925	840,440 16 0	5 8 5
In 1851..... 150,380	782,998 7 6	5 4 2

The LEAD AND TIN RETURNS will be given in our next.

SEPARATING SILVER FROM OTHER METALS.

[Specification of Alexander Parkes, of Birmingham, for improvements in separating silver from other metals. Date of patent, June 24. Date of enrolment, December 24.]

The invention, as specified by the patentee, consists—first, of certain improvements in the mode of employing zinc for the purpose of separating silver from lead. Secondly, of improvements in separating the silver from the alloy of zinc and other metals thus produced. The patentee states that in the specification of a patent granted to him June 11, 1850, he described the process to be adopted for desilvering lead by means of zinc. Since that period, he has found that for lead which contains a very much smaller per centage of silver than was noticed in that specification, a different proportion of zinc is required, the quantity of which varies according to the quantity of silver in the lead. He states that he has found when lead contains 14 ozs. of silver to the ton, the most suitable proportion is 1 per cent. of zinc; thus, for each ton of lead containing 14 ozs. of silver, he uses 23 lbs. 4 ozs. of zinc; for each ton of lead containing 21 ozs., 33 lbs. 6 ozs. of zinc; and for each ton of lead containing 28 ozs. of silver, 44 lbs. 8 ozs. of zinc. The process is conducted as follows:—The lead, in the state it is received from the smelting-house, is melted in an iron pot, and heated to the temperature of melted zinc; the zinc, in a melted state, is then added, and the whole well mixed; the contents of the pot are then stirred in the usual way with a piece of green wood, to remove any impurities; it is then cooled; the alloy of silver, zinc, &c., rises to the surface, and is removed by means of ladles pierced full of holes. A previous assay of the lead will indicate the right proportion of zinc to be employed; a larger quantity will be found necessary in cases where the lead is very impure. The lead which has thus been desilvered by means of zinc, often retains a small portion of that metal, which has the effect of rendering it brittle; this defect is remedied by the following process:—

The melted lead is run into a reverberatory furnace, and raised to a dull red heat, when the zinc rises to the surface and becomes oxydised; the furnace is then tapped and the lead run into an iron pot, when it is stirred with a piece of green wood, to remove any oxide of lead which may have formed; after which, it is ladled into moulds in the usual way. By this means, 3 tons of lead may be deprived of the zinc it contains in the course of from 2 to 2½ hours; the surface of metal exposed being from 25 to 30 square feet. The oxide of zinc remains in the furnace, whence it may be afterwards removed.

In order to separate the silver from the other portions of the alloy, the patentee proceeds as follows:—The silver is first concentrated by removing as much of the lead as possible, by placing it in an iron pot, the bottom of which is perforated with holes, the top being, at the same time, covered with a tight-fitting lid; heat is then applied, and when the metal is nearly red hot a large quantity of the lead in the alloy will escape, and thus the mass of alloy will become much reduced in size. If care be taken that the heat be not carried to too great a degree, the lead which thus escapes will be found to contain but a very minute quantity of silver. The alloy thus concentrated may next be treated by either of the following methods:—First, the alloy is placed in closed retorts, or muffles, and exposed slowly to a low heat, and continually stirred, by which means the metal is partly oxydised and falls down in fine powder; the heat is then increased, and when all the metals (except silver) in the alloy become completely oxydised, the whole is transferred to tanks containing dilute sulphuric or muriatic acid, which dissolves the oxides, leaving the silver in the metallic state. Secondly, the alloy is placed in suitable retorts, or distillatory apparatus, formed of Stourbridge clay, or of iron set in clay retorts and lined with powdered bone and charcoal, and by which means the zinc is distilled off in the usual way, after which the back part of the retort is tapped and the residue treated by cupellation, in the way well known.

The patentee states that he does not confine himself to the exact details above given, as these may, under certain circumstances, be varied without interfering with the principle of his invention.

We have had an opportunity of inspecting the list of shareholders in the West Camborne Mining Company, which consist chiefly of gentlemen resident in the West-end. The mine is divided into 5000 shares, of 2½ each, and we have no doubt but the required capital will be subscribed in a very short time, as the list includes many highly respectable capitalists.

Original Correspondence.

SURPLUS COPPER.

Sir,—The example given by "A Miner," in your 853d Number (Dec. 20th, 1851), p. 618, is plain enough as to figures, but leaves only to inference the more serious question, where the blame is to lie. If he means that the Swansea assayers bring out less produce than the mining assayers, he may perhaps be aware that there are articles of less importance than copper ore in which the seller's and buyer's assays are apt to differ, though seldom (if ever) at the rate of 16 per cent. (6½ to 7½); and it would be well if such cases were published, with the names and decisions, to show who are to be trusted. Or are we to understand that the sales are made upon estimate averages, bearing arbitrary or uncertain proportions to the assays? This would require a still more searching exposure.

It seems fair to the assayers, as well as miners, that this mystery should be brought to daylight. The new Mining School will search it out, if not cleared up before; 16 per cent. would be a heavy discount for two months' cash.—(See last Number, p. 630.)

Jan. 1.

SILVER MINING IN SPAIN.

Sir,—Observing an article in your last week's publication under this heading, permit me to correct an error relative to the Guadacanal Silver Mines, in the province of Estramadura, therein alluded to.

About the middle of the year 1848 I was engaged with a London Company to superintend the underground workings and the unwatering of the above mines, for which purpose an engine was sent from Cornwall; this was erected and got to work at the latter end of the same year; towards the close of the year 1849 the mines, after much difficulty, were completely unwatered and the workings continued until September, 1850.

The heavy expenses attendant on getting out the machinery and unwatering the mines exhausted the subscribed capital of the company; the bottom of the mines having been found extremely poor, and a disagreement taking place between the Spanish and English Companies, no additional capital could be raised, hence the premature abandonment of the mines. I do not hesitate to say it is my opinion, by a further prosecution of the mines a second "Pozo Rico" may be found; as, by an extension of the levels south, they may soon be got into a similar channel of ground, presenting the same indications on the back of the vein as about the "Pozo Rico," where the immense riches were found. Neither do I doubt the probability of all the quantity of mineral wealth stated to have been got from the mines after seeing the excavations, the width of the veins in the productive places, and the richness of the ores—specimens of which, I am perfectly aware, have assayed to upwards of 50 per cent. for silver.

Holywell, Flintshire, Dec. 24.

W. MICHELL, Jun.

THE NUMBER OF COLLIERIES IN GREAT BRITAIN, AND THE AREA OF THE COAL-FIELDS IN THE UNITED KINGDOM.

TATE'S PATENT LIGHT DRAUGHT STEAMERS.

Sir,—In a recent Number of your Journal appeared a description, with illustrative engravings of an invention, patented by Mr. Tate, of which I am desirous to obtain further information. As far as I could gather from what was stated, the main objects of this new system of naval construction and of propulsion were to render the navigation of shallow or rapid rivers not only practicable, but easy and expeditious, by diminishing the depth of immersion of vessels, and, consequently, increasing the rate of speed. I solicit the favour of publication of details of the invention as to capabilities of the buoyant band to serve as a driving wheel. My motive in addressing you is in order to ascertain whether or not a steam-vessel so constructed and propelled could be employed with success in the navigation of Indian rivers—a problem in the solution of which I am deeply interested.—A VOICE FROM THE SPINDLES; *Manchester, Dec. 23.*

An illustration of a portable sundial. It consists of a wooden box with a circular dial on its side, a metal frame with a gnomon, and a separate rectangular plate. The box is open, showing the internal mechanism.

terior mechanism of the telegraph. The horse-shoe magnet, *a*, consists of five bars of hard steel, placed one upon the other, and capped at the poles with plates of soft iron. This compound magnetic arrangement is 8 inches long, 1½ high, and 2½ high; it is capable of supporting about 40 lbs. weight. The armature, *b*, is covered with wire in the usual manner; and, by moving the handle, *c*, to the left, it is made to turn horizontally through a small arc of a circle. When the handle is released, the armature is restored to its original position; and by the sudden reversals of magnetic polarity so produced, currents of electricity are thrown into motion, and produce the desired effect upon the indicating needle, through the medium of an electro-magnet. The instrument is extremely portable; measuring only 11 inches in height, 10 in. in breadth, and 7 in. in width. The wires of communication are covered with gutta serena, and are buried in the ground.

There can be no doubt that this system of communication will soon be adopted, in a greater or less degree, throughout the mining districts generally; and when we consider the number and the magnitude of works of this character, we shall better understand the importance of the new field of telegraphic enterprise which is thus thrown open.

The statistics of coal mining are meagre, imperfect, and, to a certain extent, conjectural. Nevertheless, many important facts have been collected through the efforts of private individuals. In Great Britain there are about 1530 collieries. The largest of these are in the counties of Northumberland, Durham, Derby, and Leicestershire. The works in the two first frequently extend over an area of from 400 to 500 acres. The excavated galleries in Killingworth Colliery, Northumberland, extend about 160 miles, though the distance from one extreme point to another is not more than 5 miles. The best guide, in this respect, is the length of the air courses; and in the Hetton Colliery, Durham, the air has to travel 72 miles through the works. It does this, however, through 17 different galleries, the average distance of which is only $4\frac{1}{2}$ miles. The Haswell Colliery, Durham, has 35 miles of galleries *in work*, and the air travels through ten ways, of the average distance of $3\frac{1}{2}$ miles each. Seaton Delaval, again (Northumberland), has five air courses, of 14 mile each.

When the coal is worked by headways and boards, leaving long pillars, the distances are the greatest; and in the Northumberland district the distance, from one extreme point to another, may be fairly taken at an average of three miles. When the coal is worked in the broad or long way—i.e., when it is all taken away at once, as in quarrying (a mode much practised in the Midland counties), a mile is about the greatest distance, even in the most extensive collieries; and when it is worked in stalls, as in some parts of Wales, $1\frac{1}{2}$ or 2 miles is about the average.

From a consideration even of these few facts, it must be evident that a good system of telegraphic communication is greatly needed in the working of coal mines. A facility for passing instantaneous signals would be of great use between the hewers, putters, and onsetters (as they are termed)—the men who hew the coal—who push it to the roley ways, and hook it on to the rope—also between the onsetter at the bottom and the banksman at the top of the shaft. Indeed, by communicating in a direct manner between the onsetter and the enginemen, it would save the repeating of the signal by the banksman to the engine, and thus prevent mistakes,

It would also be a valuable assistant to the overman, gaffer, or bailiff, and save both the time and expense now incurred in sending orders to the furnacemen, firemen, and others, to whom messages are now constantly being carried by boys. That the invention might be advantageously used in many other ways is the opinion of many practical men, and, amongst others, of one who is well known to your readers, Joshua Richardson, Esq., C.E., of Neath, Glamorganshire, to whom I am indebted for much valuable information upon this interesting subject, and whose elaborate paper upon the "Furnace Paradox," which appeared some weeks since in your Journal, remains to this moment unanswered. ISHAM BAGGS.

Dec. 30.

THE FAN PADDLE-WHEEL.

SIR,—Your notice of the oblique or fan paddle-wheel, as so-called, commanded my attention, as it appears, by your remarks of the 13th instant, that it has been patented by a "City firm." In the same paper I find a letter, signed "Fiat Justitia," dated Swansea, Dec. 4, headed "Patents and Patentees," which, it is evident in my opinion, was as applicable to the fan-wheel patent as to the patent taken out by Mr. Parkes; and, perhaps, more so, as Mr. Parkes's process for refining copper may differ from that of the late Mr. Mushet, whereas the fan-wheel is precisely the same as those paddles with double acting oblique boards which have been patented and set aside about 16 years since.

I have taken much trouble to inquire into the merits of a great number of plans which have been made, with the hope of improving the paddle-wheel as originally employed, and which, it appears, is preferable to every other wheel as a general propeller, and about two months since, when I had some idea of speculating in steam navigation, I had my attention called to what appeared to me to be a very efficient wheel for steam-vessels on the Thames and at sea. My mind was quite made up to join the parties who proposed improvements in the construction of paddle-wheels, when I was told by a friend that if I would look into the various plans published in the *Encyclopædia Britannica*, I should see that the proposed plans had been patented together with many more which appeared to me new, not only in principle but in application; and if you, or any of your readers, will take the trouble to inspect that valuable publication, you will find that of the "Fan" among the number, classed among the wheels, with oblique paddle-boards. It would appear that all of them have some presumed advantage, but not such as to make them worth retaining; and had they been in use now, I should not have had the trouble to trace their origin, nor would the party who wished to patent his invention have gone so far as to apply for a patent which he was told by his agent could not be granted. Fortunately for both, he discovered his error in time, and I cannot see why his invention, which was quite as original as the fan paddle-wheel, and, in my estimation, superior, should be set aside, while the wheel of

When you write should be brought under notice as a legal patent invention. I have had no opportunity of seeing the party for the last six months, but I am sure he must be satisfied, as I am, that paddle-wheels with opaque boards, in every way they can be placed, have been made public by practice, and, therefore, are not new, or at all patentable in this or any other country, where steam-vessels are generally employed; and I shall be glad if you, or any other person, can favour me with a proof that plans precisely the same in mode and principle can be renewed after a lapse of 15 or 20 years, and appear again in the world under the title of "Royal Letters Patent." I have no farther object in asking the question than that of being corrected if wrong in my conclusions; at the same time, I am perfectly satisfied, under all circumstances, that paddle-wheels have not been much improved by placing the boards obliquely, if experience and the sound mathematical deductions of some of the most distinguished engineers of the age are worthy consideration.—FAIR PLAY: *Camelford, Dec. 29.*

BIRMINGHAM—CONTRACT for GAS.—The Guardians of the Poor of Birmingham are desirous of receiving PROPOSALS for SUPPLYING and LIGHTING the NEW WORKHOUSE with GAS. Tenders, in writing, stating the terms, at per 1000 cubic feet, addressed to "The Guardians of the Poor, Birmingham," and endorsed "Tender for Gas," to be delivered at my office, on or before Tuesday, the 13th day of January next. Such terms are to be inclusive of the cost of the plant and the works, apparatus and machinery requisite to be used (with the exception of the pipes and fittings, which are already fixed), and also inclusive of the expense of working, superintending, and consuming the same. Such tender must also state the principle upon which the gas proposed to be supplied is intended to be sold. The number of lights will be about 500. The party contracting will be required to enter into a written contract, and to execute a bond, if the Board should so think fit, in such amount as may be determined on, with one or two sureties, to be approved by the Board, for the due fulfilment of such contract. By order of the Board,

JAMES CORDER, Clerk to the Guardians,
Clerk's Office, Lichfield-street, Birmingham, 23d Dec, 1851.

MODITONHAM AND MARRABOROUGH MINE.
TO BE SOLD, BY PRIVATE CONTRACT, the extensive SETTS which constitute this MINE, together with the ENGINE, PUMPS, MAJORITIES, and MATERIALS.—The engine is a 20-inch cylinder, by West, quite new, having been at work only three months. The sets lie on each side of Goodlake, a branch of the River Tamar, and are directly east of, and a very short distance from, Wheal May, now successfully working. A shaft has been sunk 30 fathoms, and a cross-cut driven to intersect the lodes; and the Captain reports that he is within two or three fathoms of intersecting one of the main lodes in the sett, by satisfactory reasons, and can give for the present sale. See further particulars and terms apply to the purser, Mr. James Nicholson, New Bond-street, London.

TO BE DISPOSED OF, IN SOUTH STAFFORDSHIRE, a MINERAL PROPERTY, with a BLAST-FURNACE thereon, in full operation, and with every provision made for blowing another furnace when required.

The property is something under 70 acres, and it includes valuable STRATA of COAL and IRONSTONE, and will be sold to a respectable and responsible person upon very advantageous terms, and a sufficient reason given why the present proprietor wishes to part with the same.

For particulars and to treat apply to Mr. John Smith, Birmingham, or Mr. H. H. Pugh, Birmingham.

TO BE SOLD, a PUMPING ENGINE, of 16½-inch cylinder, with boiler complete, in good working order, with a **WOODEN ENGINE-HOUSE.** This engine is well adapted to prove a mine to the 30 or 40 fm. level, for which purpose it has just been used. It is situate close to the turnpike-road, two miles from Bodmin, Cornwall, and can be removed and re-erected for a trifling cost. The lowest price for the whole £180. Address, Mr. Welborne, 3, Hutton-court, Threadneedle-street.

U a valuable COPPER MINE, in killas, near to the junction of granite, containing several east and west lodes, situate in the county of CORNWALL. Upwards of £1000 have been expended in exploring the lodes, and several tons of ore raised, producing 14½ per cent. pure copper. Immediate returns may be made with a small additional outlay, there being every material on the mine necessary to resume the workings.

Also a TIN MINE, in decomposed granite, in the same county, upon which about £500 have been expended, and several tons of tin have been sold at £75 per ton.

Particulars, with reports of an eminent engineer and other practical miners, may be obtained on application to Mr. Mandeville, 22, Change-alley, Cornhill, London.

L THE TYWARNAYLE MINES, in the Parish of St. Agnes, in the County of Cornwall, belonging to His Royal Highness the Prince of Wales, are now to be leased on such terms as will be found very favourable to the lessees. The Engines and Machinery, which are of the most approved construction, and in excellent repair, may be purchased at a valuation, and possession of the mines, in complete working condition, can be taken on

These mines have, up to the present time, yielded large quantities of copper ore, and as the greatest depth to which they have been worked is only about 100 fms. below the adit level, and as there remains even in the upper levels a vast extent of untried ground, they present a great field for the application of capital and skill, with the important advantage of affording an immediate and considerable produce of ore.

to Mr. Richard Taylor, at Truro, and at No. 9, Green-
street Place, Upper Thames-street, London.

A N EXCELLENT COAL MINE TO BE LET, NEAR
FRYDDYN MILL, in the county of FLINT, the shaft of which has been sunk
to the depth of 42 yards—9 yards in circumference by 3 yards in diameter—across by
Buckley Bricks Works, called the Fire Bricks. In sinking, several BEDS of IRON-
STONE have been discovered; the shaft has been bored from the 42 yards 13 yds. lower,
where One-yard Coal has been found; Two-yard Coal is from 12 to 13 yards lower; 14
yards more will carry the level to the top of the hill, and 80 yards more will reach
from the river; 80 yards more will carry the level to the mouth of the pit, at the expense
of ss. per yard. The coal can be worked at 1s. 6d. per ton. The railway from Chester
to Coodalwyn is 1½ mile from the works. All the country round will be available for
the consumption of coals, particularly the lead mines of Mold, Llanarmon, as well as all the
farmers in the Vale of Clwyd.
For further particulars apply to Mr. W. Williams, Burton Brewery, Wrexham; or Mr.
John Edwards, Newcastle-on-Tyne.

-TO BE LET, for a term of years, all the valuable and well-known SEAMS of ANTHRACITE COAL, IRONSTONE, and BLACKBAND, under the HENDREDFORGAN FARM, in the parish of ILANGLUCKE, in the county of GLAMORGAN, which comprises ONE HUNDRED ACRES of LAND, and is situate within two miles of the Swansea Canal, to which there is communication by railroad, and within twelve miles of the

The property contains the Little Vein, 3 feet thick, celebrated for the manufacturing of anthracite iron; the Big Vein, 5 feet thick; the Welford Vein, 3 feet thick; and the Three Coal Vein, 3 feet thick—all of which have been proved; and also the SEAMS or BANDS OF IRONSTONE, BLACKBAND (17 inches thick), on the north crop of the hill, some of which are being taken away by the proprietor, and are now in a state for immediate operations. The coal is well-known in the London and other markets as Cox's Stone Coal.

Particulars to be had of Mr. M. G. Steward, mining engineer, Bedminster, Bristol; of the proprietor, Mr. Evan Jones, on the property; or at the office of Mr. Alex. Cuthbertson, solicitor, Neath.

PACKET COMPANIES, BREWERS, AND COAL MERCHANTS.
In consequence of Notice issued under the Sowers Act of 1851, that on and after the 1st day of January, 1852, every furnace employed in the working of steam-engines shall be altered so as to consume its own smoke, the Undersigned would be glad to enter into an ARRANGEMENT with Proprietors of Steam engines, Coal Merchants, or any party requiring coal, for a SUPPLY of their GELLIA STEAM-PACKET COAL, shipped at Swanscoe, which is perfectly free from smoke, thereby avoiding the necessity of altering
RICHARD & GLASBROOK.

••• The coal has been satisfactorily tested at Portsmouth, and is in extensive use at one of the largest breweries in South Wales, as also by several steam engines.
Swansen, Dec. 22, 1851.

NEEDS, AND FOUNDERS—the SUBSCRIBER'S PATENT IRON, BEING IN CONFORMITY WITH THE PATENTS OF MR. STIRLING'S PATENT IRON, IS SOUGHT TO INFORM you that he is prepared to SUPPLY Railway Companies, Engineers, and Founders, with the PATENT MALLEABLE and TOUGHENED CAST-IRON, and that all orders addressed to him for these, and also for RAILS, with Hardened Surfaces, shall have his prompt attention.

Specimens of the Irons shown, and every information afforded, on application.

Information as to the terms of License under Mr. Stirling's Patents will be given by the Subscriber, and also by Mr. JEE, C.E., 6, John-street, Adolphus. A. MACNAUGHT.

OFFICES,—3, QUEEN-STREET PLACE, UPPER THAMES-STREET.

WAREHOUSES, — Paul's Wharf, 25, Upper Thames-street.

SAFETY FUSE.—Messrs. WILLIAM BRUNTON AND CO., PENHALLICK, near BREATH, CORNWALL, MANUFACTURERS OF FUSE (every also made in the Great Exhibition of 1851), beg to inform their Friends in Cornwall, Devon, Wales, Ireland, and every other part of the Globe, that they are prepared to EXECUTE UNLIMITED ORDERS FOR SUPPLYING FUSE of their own manufacture, and upon warrant that it will be proved equal to, if not better, than any that is to be procured elsewhere, and that Mr. J. R. FICK is now upon his journey through the United Kingdom, and will call to solicit further orders, which they are requested to receive, or otherwise apply by letter, direct to the Manufactory.

LONDON, 1851. 49

of the ORIGINAL, and only real, SAFETY FUSE, beg to inform Merchants, Fire Agents, Railway Contractors, and all persons concerned in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which being patent right, invariably distinguishes it from all imitations, and ensures the continuity of the gunpowder. The Safety Fuse is now protected by a Second Patent, and manufactured by greatly improved machinery.

BICKFORD, SMITH, DAVEY, Camborne, Cornwall.

PATENT SAFETY FUSE.—Mr. WILLIAM R. BANT
would direct the attention of MINING COMPANIES and OTHERS to the FACT
of his OWNING a PATENT for the MANUFACTURE of SAFETY FUSE in SPAIN, and
that he will be happy to attend to any communications which may be addressed to him
for the SUPPLY thereof.
No. 74, Calle de San Miguel, Cartiagena, October 30, 1851.

MUSEUM OF PRACTICAL GEOLOGY.

LONDON.

Government School of Mines,
AND OF SCIENCE APPLIED TO THE ARTS.

The following LECTURES COMMENCE, with INTRODUCTORY DISCOURSES, in JANUARY, 1852:—
 January 6.—GEOLOGY, and its APPLICATIONS. A. C. BARRAT, F.R.S.
 " 7.—MINING and MINERALOGY. WASHINGTON W. SMITH, M.A.
 " 8.—METALLURGY. JOHN PENNY, M.D., F.R.S.
 The COURSES on CHEMISTRY, by LEON PLATTNER, F.R.S.; NATURAL HISTORY and its APPLICATIONS, by EDWARD FOULKE, F.R.S.; and MECHANICAL SCIENCE, by ROBERT HUNT, Keeper of Mining Records, are in progress.
 OFFICERS of the ARMY and NAVY, either in the Queen's or East India Company's service, are ADMITTED to the LECTURES at HALF the USUAL CHARGES.
 For further information apply to Mr. Treharne Hicks, at the Museum.
 H. DE LA BECHE, Director.

LIVERPOOL COLLEGE OF CHEMISTRY.

Professor—Dr. SHERIDAN MURPHY, F.R.S.E.

STUDENTS are INSTRUCTED in EVERY BRANCH OF THE SCIENCE.

DAREN MINE.—The shareholders in the above adventure are requested to attend a PUBLIC MEETING, which will be HELD at the George and Vulture, George-yard, Lombard-street, on Wednesday, the 7th inst., at One o'clock precisely, to take into consideration its present position and past management, and to adopt such measures as may be deemed most expedient to prevent the entire sacrifice of the property. —January 1, 1852.

OWLACOMBE BEAM AND UNION MINES—NOTICE.—The BALANCE SHEET may be INSPECTED by the SHAREHOLDERS at the Company's Office, 75, Cornhill. ROBERT HUNT, Secretary. London, Dec. 29, 1851.

GREAT POLGOOTH MINING COMPANY.—The QUARTERLY STATEMENT, signed by the auditors, showing the working costs, sales of ore, and balance in favour of the mine, together with the last report, can BE SEEN by the SHAREHOLDERS, at the office, or upon reference to the Mining Journal of Saturday, the 3d inst.
 Offices, Winchester House, 32, Old Broad-street, Jan. 1, 1852.

ALTEN MINING ASSOCIATION.—Notice is hereby given, that a GENERAL MEETING of the shareholders will be HELD at the office, 2, New Broad-street, on Friday, the 9th day of January, 1852, at Two o'clock precisely, for the purpose of receiving the Report of the Directors, and also a statement of Financial Accounts, to 31st March last. The accounts will be at the office for the inspection of the shareholders three days previous to the meeting. —Dated this 19th day of December, 1851.
 By order of the board, EDWARD J. COLE, Secretary.

MARMATO MINING COMPANY.—Notice is hereby given, that the THIRD HALF-YEARLY DIVIDEND OF ONE POUND per share on the shares in the MARMATO MINING COMPANY, will be PAID at 13, Austinfriars, on and after the 10th of January next.
 L. R. JONES, Secretary. 13, Austinfriars, Dec. 23, 1851.

ROYAL SANTIAGO MINING COMPANY.—The Directors hereby give Notice, that the HALF-YEARLY GENERAL MEETING of the shareholders will be HELD at the Office of the Company on Wednesday, the 7th day of January next, at Two o'clock precisely, when the Directors will make their report.
 38, Broad-street-buildings, Dec. 19, 1851.

THE AUSTRALIAN MINING COMPANY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of this Company will be HELD at the London Tavern, in the city of London, on Thursday, the 22d January, 1852, at One o'clock precisely, to receive a Report from the Directors on the affairs of the Company, and to consider and determine upon a plan which will be submitted to the meeting for raising a sum of money required for the purposes of the Company, either by Debenture or otherwise. —19, Birchin-lane, Jan. 2, 1852.
 The transfer books will be closed until the 31st January.
 By order of the board, T. W. PLUM, Secretary.

WICKLOW COPPER MINING COMPANY.—The stated HALF-YEARLY MEETING of the Company will be HELD at their office, 10, Leinster Chambers, 43, Dame-street, on Thursday, January 8, 1852, at the hour of Two o'clock, P.M.—Dublin, Dec. 29, 1851.

CALLINGTON MINES COMPANY.—At the Quarterly GENERAL MEETING of Shareholders, held at the offices of the Company, Salvador House, Bishopsgate, on Wednesday, the 31st Dec.,
 RICHARD HODGSON, Esq., in the chair,
 It was resolved,
 That the reports and accounts now read be received, adopted, and entered in the Cost and Transfer Book.—Carried unanimously.
 That Mr. Johnson do for the future submit a full report on the mines to each quarterly meeting of shareholders.—Carried unanimously.
 That the recommendations of Capt. Sprague and Rogers, contained in their joint report, under date the 29th December, being concurred in by Mr. Johnson, be forthwith carried into effect.—Carried unanimously.
 That the thanks of this meeting be, and are hereby given, to the chairman and directors.—Carried unanimously.—Dec. 31.

WEST WHEEL JEWEL MINING ASSOCIATION.—At a SPECIAL GENERAL MEETING of the shareholders in the above Company, held at their offices in Old Broad-street, on Tuesday,
 JAMES HERRON, Esq., in the chair,
 The Chairman read the notice convening the meeting from the Mining Journal, and the Secretary the minutes of the last general meeting, held on the 8th December, when it was Proposed by Mr. J. Y. Watson, seconded by Mr. T. Field, and carried unanimously,
 That the Resolution entered into at the Special General Meeting of shareholders, held at the Company's offices, on the 8th day of December (that the Company be forthwith DISSOLVED), be absolutely confirmed. And that the Directors and Committee do forthwith proceed to sell and convert the property of the company into money, by public auction, and cause so much of the funds and property of the company as shall not be required to meet the existing engagements thereof to be paid and distributed to and among the then proprietors, or holders of shares therein, rateably, according to the number of shares held by them respectively.

WHEEL LANGFORD AND BARING UNITED.—At a MEETING of the Committee of Management, held at the offices of the Company, 34, Threadneedle-street, this 26th day of December, 1851,
 R. W. DARE, Esq., in the chair,
 Present—Messrs. Broad, Gregory, Lynch, Moody, Barnard, and Vivian,
 Moved by Mr. Gregory, seconded by Mr. Barnard, and carried unanimously,
 That a Special General Meeting of this company be called for Thursday, the 29th day of January, 1852, to forfeit all shares on which the call of 2s. 6d. per share shall not have been paid, and that proceedings be then adopted to forfeit such shares, and that they be then and there declared forfeited.
 Moved by Mr. Moody, seconded by Mr. Vivian, and carried unanimously,
 That your committee, considering it desirable and conducive to the interests of this Company to reduce the number of the shares from 6000 to 1200, making each existing paid-up certificate of five shares equivalent to one share of £3 2s. 6d.
 Moved by Mr. Broad, seconded by Mr. Gregory, and carried unanimously,
 That a copy of the foregoing resolutions be advertised in the Mining Journal and Daily News for four successive weeks.
 Moved by Mr. Broad, seconded by Mr. Moody, and carried unanimously,
 That Mr. Gregory be appointed to assist Mr. Clench in auditing the accounts, in the place of Mr. Manuel, resigned.
 By order of the Committee,
 HENRY MOLYNEUX, Secretary.

BRAICH GOCH SLATE AND SLAB QUARRIES,
 TALLY-LYN, MERIONETHSHIRE, NORTH-WALES.
 Now being worked on the Cost-book Principle.
 Capital £14,000, in shares of £1 per share.—Deposit 10s. per share.

OFFICES.—No. 4, CUSHION-COURT, OLD BROAD-STREET, LONDON.
 The above extensive quarries having been formed into a company, as advertised a short time since, have recently been joined by some highly-respectable gentlemen, who, after a careful investigation into the merits and value of the undertaking, and also of the rules and regulations under which it is conducted, have entered upon the committee of management.
 The committee now OFFERS to respectable parties the UNDISPOSED SHARES, by transfers only. The lucrative character of the undertaking may be relied upon with certainty. A dividend on the amount paid upon the shares will be made by July next.
 Prospectuses and shares may be obtained at the offices, 4, Cushion-court, Old Broad-street; the solicitors—Philip Johnson, Esq., 9, Lincoln's Inn-fields; Messrs. Brooks, and Co., 29, Piccadilly; and at the Gloucester Place-Works, where samples of slate and slabs may also be seen. Prospectuses and shares may also be had of the under-mentioned brokers:—Messrs. James Lane, 33, Threadneedle-street; M. Francis and Co., 1, Crown-court, Threadneedle-street; Hughson and Dobson, Royal Exchange, Edinburgh; J. Power, 22, Fownes-street, Dublin; J. A. Edon, Sheffield.

STIRLING'S PATENTS FOR IMPROVEMENTS IN IRON.—1. TOUGHENED CAST-IRON, which is double the strength of ordinary cast-iron, and only 10s. to 12s. per ton extra.
 2. ANTI-LAMINATING IRON, for RAILS and TIRES, &c., at an extra price of from 7s. 6d. to 10s. per ton. Also IMPROVEMENTS in the MAKING of WROUGHT-IRON—saving one process to the manufacturer.

The following Iron Manufacturers are duly LICENSED to MAKE the IRON:—
 Messrs. BAIRD & CO., Glasgow.
 The CLYDE IRON COMPANY, ditto ditto
 The FIFE IRON COMPANY, ditto ditto
 The HERSLEY COMPANY, Tipton, Staffordshire.
 Messrs. LLOYD, FOSTER, & CO., Walsbury.
 Mr. JOHN WILSON, Dundee, Glasgow.

AGENTS.
 Messrs. W. & J. H. JOHNSON, 166, Buchanan-street, Glasgow, and 20, St. Andrew's-square, Edinburgh.
 Further particulars may be obtained on application to the agents; or to Mr. JEE, civil engineer, No. 6, John-street, Adelphi, London.

ED. J. DENT has REMOVED from 82 to 61, STRAND
 (being 31 doors nearer to Charing-cross, and directly opposite Bedford-street).
 A solicitor and INSPECTOR of his extensive STOCK of CHRONOMETERS, WATCHES, and CLOCKS, as above; also at No. 33, COCKSPUR-STREET, and No. 34, ROYAL EXCHANGE (Clock Tower area).

HAFOD-Y-LLAN COPPER & LEAD MINES COMPANY.

SITUATE NEAR BEDDLELEY, GARNARVONSHIRE.
 Capital £30,000, in shares of £1 each—to be paid up in full upon allotment.
 TO BE CONDUCTED ON THE COST-BOOK PRINCIPLE.

COMMITTEE OF MANAGEMENT.
 THOMAS FARNCOMB, Esq., Alderman, Sydenham
 NATHANIEL GOULD, Esq., Tavistock-square
 HENRY McKELLAR, Esq., Wandsworth Lodge, Surrey
 The Hon. HENRY NOEL, Exton Park, Rutlandshire, and 11, Chandos-street, Cavendish-square
 J. WILLIAMS, Esq., M.P. for Macclesfield, Bron Wylfa, St. Asaph, Flintshire
 SAMUEL WIX, Esq., Balham-hill, Surrey
 BANKERS—Union Bank of London.
 CONSULTING MINING ENGINEERS—Messrs. Williams and Noel, Moorgate-street.
 SOLICITORS—Messrs. Bischoff and Cox, 19, Coleman-street.
 TEMPORARY OFFICE.—61, MOORGATE-STREET.

The two valuable mineral properties which the company propose to purchase and work are Hafod-y-Llan and Sygan; the former distant about four miles from Beddgelert, and the latter within a mile of that village. The mineral capabilities of both these properties are well known throughout the principality. The most important works are now nearly completed, and the mines can be made largely productive in the course of a few months.

The estimates show a net return of upwards of 27 per cent. on the capital employed in the completion and bringing into operation the works now in progress. This return will proportionately increase with the development of new lodes.

After the mine has been fully opened out it is proposed to pay two-monthly dividends. The promoters are of opinion that few mining enterprises have been commenced under more auspicious circumstances, and such as will ensure an earlier and a larger return for the capital proposed to be invested.

In order to restrict the liability of the shareholders to the sum paid upon their shares, the company has been constituted on the Cost-book Principle. There will be no Deed of Settlement.

Applications for shares to be addressed to the Committee of Management, at their temporary offices, 61, Moorgate-street, where may be had the detailed prospectus, and the reports and estimates of the mining engineers.

HAFOD-Y-LLAN COPPER & LEAD MINES COMPANY.

The Committee of Management give NOTICE that no FURTHER APPLICATION for SHARES will be received AFTER TUESDAY, the 6th of January next.
 61, Moorgate-street, December 26, 1851.

AUSTRALIAN AURIFEROUS ORE REDUCTION

AND GOLD MINING COMPANY.

Capital £100,000, in 100,000 paid-up shares, of £1 each, without any further call.
 On the "Cost-book" Principle.—No Deed necessary to be signed.

COMMITTEE OF MANAGEMENT.
 JAMES GRAY, Esq., THOMAS ROBINSON, Esq.,
 RICHARD HUGHES, Esq., M. F. WAGSTAFFE, Esq.,
 JOHN PARLEY, Esq., RICHARD WEBB, Esq.,
 BANKERS—Commercial Bank of London, Lothbury.
 SOLICITORS—Messrs. Harrison, No. 5, Walbrook.
 SECRETARY—Mr. Robert Favell.

OFFICES.—No. 2, WALBROOK-BUILDINGS, WALBROOK.
 This company is formed on the Cost-book Principle, in pursuance of the provision contained in the Joint-Stock Companies' Registration Act, which expressly exempts from the operation of the Act the working of mines, minerals, and quarries of what nature soever.

The discoveries made of gold in the district of Bathurst, New South Wales, sufficiently establish the fact that an extensive range of country there contains gold to a large and probably boundless amount.

This company has been formed for the purpose of reducing by crushing-engines, and other machinery, the auriferous ores, and separating and extracting the mineral from its matrix.

The works will be available for all such ores produced in the colony, as no such works exist there at present; they will also be made especially subservient to the mining operations of this company.

One of the main objects of the company will be the realisation of the mineral wealth of the colony by means of English capital and English science. The committee of management have forwarded instructions to the company's agent in New South Wales, with ample powers to secure grants of the most desirable tracts of the mineral country.

Competent geologists, and a sufficient staff of practical miners, with the necessary machinery, will be shortly dispatched to the colony to commence operations.

New South Wales, as one of the most important English colonies, enjoys the security afforded by English laws, and in no country is there greater protection to life and property.

The necessity for the employment of the limited capital of the colony in its ordinary channels, precludes the colonists from successfully working mines; and, consequently, all mining operations on a large scale must be left to the enterprise and capital of the mother country.

The operations of the company in reducing the ores must, irrespective of its ordinary mining operations, become a source of large and permanent profit.

A direct line of steamers between England and New South Wales will shortly be established.

The sum of £1, the full amount per share, will be payable on allotment, when the bankers' receipts will be exchanged for scrip certificates.

Applications for shares to be made to the following stock and sharebrokers:—
 Messrs. Lind and Rickard, 3, Bank Chambers, Lothbury, London; Mr. T. Sternberg, Northampton; Messrs. Barff and Flint, Leeds; Mr. Herbert C. Langton, Exchange-court, Exchange-street East, Liverpool; Mr. Arch. Kerr, No. 3, Exchange-place, Glasgow; Mr. W. I. Windram, Halford-street, Leicester; John Duncuft, Esq., M.P., Manchester; Mr. Chas. Stokes, Edale, Truro; Mr. Sanford, Musgrave's-alley, Exeter; Messrs. T. W. Flint and Co., Bowl Alley-lane, Hull; Mr. Jos. Sargent, Linton, Cambridgeshire; Mr. Anthony Shells, South Hanover-street, Edinburgh; Benjamin Spry Stock, Esq., Bristol; Messrs. Lane and Perry, Waterloo-street, Birmingham; and to the Secretary, at the Company's offices—from all of whom prospectuses may be had.

2, Walbrook-buildings, Walbrook. ROBERT FAVELL, Secretary.

FORM OF APPLICATION FOR SHARES.

To the Committee of Management of the Australian Auriferous Ore Reduction and Gold Mining Company, No. 2, WALBROOK-BUILDINGS, WALBROOK.

GENTLEMEN.—I request you to allot me shares of £1 each, in the above undertaking, and I hereby agree to accept the said shares, or any less number you may allot to me, and to pay the full amount thereof at the time specified in your letter of allotment.

Name in full.....
 Residence.....
 Date.....
 Reference and occupation.....

AUSTRALIAN AURIFEROUS ORE REDUCTION

AND GOLD MINING COMPANY.—NO APPLICATION FOR SHARES in this Company will be RECEIVED FROM PARTIES in LONDON after MONDAY, 12th January, or from the COUNTRY, after WEDNESDAY, 14th January.

2, Walbrook-buildings, Walbrook, London. ROBERT FAVELL, Secretary.

BRITISH AUSTRALIAN GOLD MINING COMPANY.

ESTABLISHED IN SYDNEY.
 Capital £300,000, in 300,000 shares, of £1 each—to be paid up in full, and without any further liability.—50,000 shares are reserved for Australia.

COMMITTEE OF MANAGEMENT IN AUSTRALIA.
 EDWARD HAMMOND HARGREAVES, Esq., Sydney, the first discoverer of gold in Australia.

RICHARD FAWCETT, Esq., George-street, Sydney
 JOHN ORR, Esq., Sydney and Melbourne

COMMITTEE FOR THE LONDON AGENCY.
 CHARLES HENEGGE, Esq., 3, Cadogan-place
 WILLIAM PRINSEP, Esq., 8, Hyde-park-place West
 EWING PTE COLQUHOUN, Esq., 3, Stratford-place
 GEORGE BURGE, Esq., Shaftesbury-crescent, Finsbury
 RICHARD WARD, Esq., New City-chambers
 HENRY THOMAS RYDE, Esq., Mecklenburg-cottage, Mecklenburg-square
 JOHN MOORHOUSE, Esq., 12, Billiter-street
 EDWARD DAVIS, Esq., Herne Bay.

George Stone, Esq., banker, Lombard-street; James Colquhoun, LL.D., 3, Stratford-place; and Charles Henegge, Esq.

BANKERS.—SYDNEY—Union Bank of Australia.
 LONDON—Messrs. Martin, Stone, and Martin, 18, Lombard-street.

SOLICITORS.—SYDNEY—Randolph John Want, Esq.
 LONDON—F. P. Chappell, Esq., 25, Golden-square.

STOCK BROKER.—Mr. F. A. Helps, 21, Fench-lane.
 LONDON SECRETARY.—Mr. H. A. Drake.

OFFICES.—SYDNEY—481, George-street | LONDON—26, Moorgate-street.

This Company (which is already completely formed in Sydney) has been established for the purpose of working the most eligible portions of the splendid gold fields lately discovered in Australia.

The Committee have secured leases for seven years of a plot of freehold land, situate on the Summer Hill Creek, in the Wellington District, contiguous to the famous Ophir diggings; and also such portions of an estate, called "Singleton," as are desirable for mining purposes. This estate is contiguous to Maitland, on the Hunter River, and extends upwards of 30 miles, in many parts of which gold has already been discovered.

The contracts have been submitted to, and approved by, eminent counsel here.

Either of both of these leases are renewable for an extended period of seven or fourteen years, at the option of the company, on payment to the lessor of a royalty of £3 per cent. upon the produce.

The Company being established in Sydney, the liability of each shareholder is limited to the amount of his shares, which are paid up in full on allotment. The shareholders are subject to no call, and are not required to sign any deed, as the opinion of Sir F. Theobald, already published, will show.

Applications for shares, in the usual form, must be made on or before Thursday, the 8th day of January, 1852, at the offices of the Company; to Mr. F. A. Helps, stock-broker, No. 21, Fench-lane; or to any of the country agents hitherto advertised.

BRITISH AUSTRALIAN GOLD MINING COMPANY.

—NO APPLICATIONS FOR SHARES in this Company can be RECEIVED after THURSDAY, the 8th day of January, 1852. By order of the Committee,
 26, Moorgate-street, Dec. 31, 1851. H. A. DRAKE, Secretary.

GOLD MINES.—W. CROSSKILL, Ironworks, Beverley,

Yorkshire, has on show, and in motion when required to prove their capabilities, his PATENT MILLS to GRIND MINERAL ORES. Two mills will grind two tons of gold ore per hour to powder with eight horses. W. C. will also furnish steam-engines, with very simple boilers, to raise steam by either wood or coal, mounted to work on carriages, so that no one engine has to carry more than two tons. W. C. will engage to furnish the whole or any duplicate grinding parts warranted to grind 20,000 tons of ore, for the sum of £1000. The wearing parts can be replaced for 2d. per ton of ore. The mills are so simple and strong that they cannot be broken. Duplicate wearing parts would fit either mill in case of accident, and can be had for £50 extra.

STEAM TO INDIA, CHINA, &c.—Particulars of the regular

MONTHLY MAIL STEAM CONVEYANCE.

AND OF THE ADDITIONAL LINES OF COMMUNICATION, NOW ESTABLISHED BY THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY

with the EAST, &c. &c. The Company's ships PASSENGERS, and receive GOODS and PARCELS, as heretofore, for CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG KONG, by their steamers, starting from SOUTHAMPTON on the 20th of every month, and from SUEZ on or about the 10th of the month.

The next extra steamer will be dispatched from Southampton for Alexandria, on the 3d of April next, in combination with an extra steamer, to leave Calcutta on or about the 20th of March. Passengers may be booked, and goods and parcels forwarded by these extra steamers to or from SOUTHAMPTON, ALEXANDRIA, ADEN, CEYLON, MADRAS, and CALCUTTA.

BOMBAY.—The Company will likewise dispatch from Bombay, about the 17th December and 17th February next, a first-class steam-ship for ADEN, to meet there the Company's ships between Calcutta and Suez, in connection with their Mediterranean steamers leaving Alexandria about 6th January and 6th March, affording direct conveyance for passengers, parcels, and goods, from BOMBAY to SOUTHAMPTON.

PASSENGERS, PARCELS, and GOODS for BOMBAY and WESTERN INDIA will also be CONVEYED THROUGHOUT in the Mail steamers, leaving Southampton on the 20th December and 20th February next, and the corresponding vessels from Suez to Aden, at which latter port a steam-ship of the Company will be in waiting to embark and convey them to Bombay.

Passengers for Bombay can also proceed by this Company's steamers of the 29th of the month to Malta, thence to Alexandria, by Her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—MALTA: On the 20th and 29th of every month.—CONSTANTINOPLE: On the 29th of the month.—ALEXANDRIA: On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th, 17th, and 27th of the month.

N.B.—Steam-ships of the Company now ply direct between Calcutta, Penang, Singapore, and Hong Kong, and between Hong Kong and Shanghai.

For further information and tariffs of the Company's recently revised and reduced rates of passage-money and freight, and for plans of the vessels, and to secure passages, &c., apply at the company's offices, No. 129, Leadenhall-street, London; and Oriental-place, Southampton.

THE PATENT WATER-BALLAST STOWAGE BAGS

AND PUMPS HAVING BEEN TESTED, and met the approval of practical men, the Public is respectfully informed that all is now prepared for FITTING UP SHIPS, by application to Mr. KIRK, at the Works, GIBSON'S BUILDINGS, NEWCASTLE-UPON-TYNE, where a pamphlet and illustrations may be obtained by or forwarded to parties, and where all inquiries will be fully replied to.—Newcastle-upon-Tyne, Aug. 15, 1851.

STIRLING'S PATENT ALLOYS.—RAILWAY CAR-

RIAGE BEARINGS, MILL BRASSES, and all DESCRIPTIONS of CASTINGS, are MANUFACTURED by ALFRED BARRETT, Bishopsgate Foundry, Skinner-street, SOLE LICENSEE FOR LONDON.

BELLS of very superior quality (Stirling's Patent) are also SUPPLIED.

APPROPRIATE GIFT BOOK OF THE SEASON.
 By authority of the Royal Commissioners.

THE COMPLETE OFFICIAL DESCRIPTIVE and ILLUSTRATED CATALOGUE OF THE GREAT EXHIBITION OF THE WORKS OF INDUSTRY OF ALL NATIONS, 1851.

In Three handsome Volumes, price Three Guineas. The Library of every Englishman will be incomplete without a copy of this truly national work, which will be handed down from generation to generation as an enduring record of an event which excited the wonder of the civilized globe, and formed one of the brightest phases of the present century. —Mining Journal.

SPICER BROTHERS, Wholesale Stationers, 78, WM. CLOWES and SONS, Printers.

Official Catalogue Office, Tudor-street, New Bridge-street, Blackfriars, and all booksellers.

Now published, price 12s. 6d., and may be had from any respectable bookseller.

A PRACTICAL TREATISE ON THE WORKING AND VENTILATION OF COAL MINES, with SUGGESTIONS FOR IMPROVEMENTS IN MINING.

By JOHN HEDLEY, Colliery Viewer.
 London: J. Weale, No. 59, High Holborn.

LONDON SMOKE ACT.

Now ready, price Sixpence, or post-free for Eight Stamps.

SUGGESTIONS ON THE USE OF SMOKE-CONSUMING FURNACES, THEIR ECONOMY, ADVANTAGES, and DISADVANTAGES.

By W. KELD WHITEHEAD, C.E.
 John Weale, High Holborn; Mathew Saul, 69, Cornhill; and all booksellers.

THE MINING MANUAL and ALMANACK FOR 1852.

Under the Immediate Patronage of His Royal Highness PRINCE ALBERT, K.G. All communications, with statistical information and advertisements, are requested to be forwarded to the Editor, 25, Fleet-street, London, before the 24th January, 1852.

THE PRACTICAL MECHANICS' JOURNAL for January

the 1st, 1852, price 1s., contains:—Discovery and Invention, III.—France in the Great Exhibition—Bourdon's Metallic Manometer—Re-opening of the Polytechnic Institution—Patent Law Amendment—Philosophy and Practice of Railways, I.—Manufacture of Facilitious Leather—Permanent Way/Paving and Flooring Roads and Bridges—Hawkin's Improvements in Brushes—Anderson's Life-Boat—Carter's Filtering Apparatus—Chadburn Brothers' Barometer Tube—Miller's Radiator and Opifer Perspector—Locomotive Mechanism in the Great Exhibition—Disconnecting Apparatus for Fiddle-Wheels—Reviews and List of Patents and Registered Designs for the month.

Illustrated by two large Copper-plate Engravings of Hill's Self-acting Railway Brake and Wrought-Iron Railway Chairs—and Milligan's Power-Loom, and numerous Wood Engravings.—Vols. 1, 2, and 3, price 14s. each, cloth boards, are now ready, and may be had of all booksellers; George Hebert, 88, Cheapside, London; Patent Offices, 166, Buchanan-street, Glasgow; and 20, St. Andrew's-square, Edinburgh.

NATIONAL ASSURANCE AND INVESTMENT ASSOCIATION.

No. 7, ST. MARTIN'S-PLACE, TRAFALGAR-SQUARE, LONDON.
 ESTABLISHED MAY, 1844.

TRUSTEES.
 Lieut.-Colonel the Right Hon. LORD GEORGE PAGET, M.P.
 Rev. JOSEPH PRENDERGAST, D.D. (Cathedral), Lewisham.
 GEORGE STONE, Esq., banker, Lombard-street.
 MATTHEW HUTTON CHATTO, Esq., Reigate.

This Society combines the advantages of Life Assurance with those of a safe and profitable investment of capital. The plan is original, and cannot be adopted by any other institution without contravening the enactments for the regulation of joint-stock companies.

IMPORTANT AND PECULIAR ADVANTAGES.—Policies are absolutely INDISPENSABLE, and made PAYABLE to the HOLDER BY SPECIAL ENDORSEMENT—thus saving the expense of a transfer deed, as well as legacy and probate duty.

CAPITAL STOCK.—This stock is altogether distinct and separate from the Depositors' Stock in the Investment Department. It constitutes, with the Premium Fund, a guarantee for the engagements of the Association, and has been provided in order to render the security of the assured complete.

MUTUAL ASSURANCE.—The entire profits belong to the assured, and are divided annually amongst the holders of policies on which five or more yearly premiums have been paid. HALF CREDIT.—Credit given for half the amount of the annual premium for the first five years, without security. The sums for which credit is given may be liquidated out of the profits from time to time allotted to the assured. STAMP DUTY.—No charge made to parties assuring in this branch for stamp duty on their policies.

NON-PARTICIPATING BRANCH.—Assurances may be effected on the non-participating principle at very low rates of premium; and a variety of tables have been computed to suit the circumstances and convenience of different classes of assured.

ASSURANCE DEPARTMENT GENERALLY.—Premiums may be paid annually, half-yearly, or quarterly—in one sum, or in a limited number of payments. Thirty days allowed for payment of Renewal Premiums, but Policies having lapsed, may be revived without the exaction of a fine, on satisfactory proof of health, and on payment of premiums in arrear and interest.

FOREIGN RESIDENCE.—Liberty to travel and to reside abroad without extra charge has been greatly extended; and special licences for particular places, and general licences to proceed to any part of the world, are granted on moderate terms. Officers in the Army and Navy, and at the Tabular Rates, when not engaged in active service.

MEDICAL PRACTITIONERS.—Medical men are in all cases remunerated for their reports. SETTLEMENT OF CLAIMS.—Policies payable 3 months after satisfactory proof of death.

INVESTMENT DEPARTMENT.—The object of this department is to open equally secure and profitable channels of investment for the surplus capital of

FOREIGN MINES.

MINES WHICH HAVE SOLD ORES.

MINES WHICH HAVE NOT SOLD ORES.

Number.	Location.	Paid.	Last Price.	Present
3900	East Black Craig (lead), Kirkcaldy.	35	35	35
3948	East Boringdon Park, Mympton.	35	35	35
1024	East Buller (copper), near Redruth.	39	39	39
128	East Carr Hill (copper), Redruth.	4	4	4
4000	East Gurnea Lake Junction (copper).	4	4	4
512	East Soton and Wheal Maude, Redruth.	74	74	74
9800	East Tamar Consols (all-lead), Beorffurris.	1	1	1
256	East Tolgus (copper), Redruth.	8	8	8
1000	East Trescott.	1	1	1
128	East Wheal Consols (tin and copper).	6	6	6
1024	East Wheal Consols (copper), Tavistock.	3	3	3
2048	East Wheal Josiah (copper), Tavistock.	3	3	3
3000	East Wheal Raleigh, Launceston.	11	11	11
1000	East Wheal Reeth, St. Ives.	3	3	3
4000	East Wheal Russell (copper), Tavistock.	1	1	1
1034	Fredd Lwydd Mines (lead), Wales.	3	3	3
1000	Gellirhelvin (silver-lead), Cardiganshire.	1	1	1
1000	Great Tyn Consols (copper and tin).	1	1	1
1024	Great Trevel (silver-lead), Merioneth.	9	9	9
3000	Great Sheba Consols (tin and copper).	9	9	9
1024	Great Wheal Alfred (copper), Pilaick.	10	10	10
8000	Great Wheal Martha (cop.), Stoke Clims.	1	1	1
512	Great Wheal Rough Tor Consols (copper).	29	29	29
6000	Grown Slate Company, Camelford.	5	5	5
1026	Gustavus Mines (copper), Camborne.	7	7	7
92	Helvellyn Mining Company, Westmoreland.	25	25	25
10000	Horsham (copper) Ireland.	124	124	124
3300	Kammage and West of Ireland (copper).	1	1	1
1000	Kilbricken (silver-lead), Clara, Ireland.	3	3	3
1024	Kingsett and Bedford (lead and copper).	3	3	3
1024	La Min (Gwinnar), tin and copper.	4	4	4
8000	Lampen Consols (copper), St. Neot.	1	1	1
3000	Lanabur, Merionethshire, North Wales.	1	1	1
1024	Lantallack (silver-lead, &c.), Landraaks.	1	1	1
5036	Lydford Consols (lead).	1	1	1
3100	Lyaly Iron (iron).	50	50	50
512	Min Tin Pair (silver-lead), Merioneth.	4	4	4
2000	Mollard.	3	3	3
160	Morvah Consols (tin and copper).	3	3	3
5000	New Copper Bottom (copper) Bridesowe.	11	11	11
2048	New East Crowndale (copper and tin).	1	1	1
1024	North Buller (copper), Redruth.	6	6	6
2000	North Downs (copper), Redruth.	1	1	1
256	North Tolgus (copper), Redruth.	13	13	13
10000	North Trevelyan (lead and copper).	1	1	1
1024	North W. Robert (copper), Walkhampton.	31	31	31
1060	North Wheal Trevel (lead), Quethlock.	11	11	11
2048	Okel Tor (lead), Calstock.	4	4	4
256	Old Wheal Bassett (copper), Redruth.	4	4	4
1026	Pendarras Consols (copper), Camborne.	13	13	13
1000	Pendarras.	1	1	1
700	Pon-y-bank and Ergold (lead).	4	4	4
1000	Peter Tavy and Mary Tavy (copper).	4	4	4
2000	Polgear (copper and tin).	1	1	1
1024	Predd Consols (tin), Towedack.	1	1	1
1024	Predd Consols (tin), Towedack.	17	17	17
1024	Reinford Consols (tin), Ferrassabulo.	1	1	1
10000	Silver Valley & Wh. Brothers (all-lead).	3	3	3
1024	Sourton Consols.	21	21	21
2000	South of Scotland.	1	1	1
2000	South Carr Breck (copper), Illogan.	10	10	10
1024	South Plain Wood (copper), Ashburton.	5	5	5
3000	South Wales Mining Company (lead).	1	1	1
256	South Wheal Josiah (copper), Calstock.	2	2	2
1946	St. Hill (tin), Tavistock.	1	1	1
2500	St. Agnes Beacon (tin and copper).	21	21	21
13000	St. Ender (copper and lead) St. Austell.	9	9	9
687	Tary Consols (copper), near Tavistock.	2	2	2
2048	Trebell Consols (tin and copper), Lanivet.	13	13	13
224	Tregorden (silver-lead) Wadebridge.	10	10	10
12	Trelewith (copper), St. Erth.	6	6	6
500	Trelyn Consols (tin), St. Ives.	4	4	4
2000	Tremur (copper), Liskeard.	3	3	3
6000	Trevaun, (tin and copper).	21	21	21
512	Trethrey (copper), St. Ives.	13	13	13
512	Trevilly (tin), Lewannick.	2	2	2
2048	Trevilian (tin and copper).	2	2	2
604	Trowan Consols (tin), Towedack.	7	7	7
4000	Tyn-y-Worlod (slate), near Carnarvon.	4	4	4
512	Tywardreath (copper), St. Bazez.	8	8	8
1024	West Alfred Consols (copper), Pilaick.	10	10	10
1024	West Beam (tin), St. Austell.	29	29	29
1000	West Callington, copper.	4	4	4
8000	West Camborne (copper and tin).	8	8	8
256	West Damsel (copper), Gwennap.	5	5	5
1024	West Downs (copper and tin), Whilphurth.	2	2	2
1020	West Nantyrwyn.	1	1	1
12	West Pentire (copper and lead), Padstow.	2	2	2
1024	West Phoenix, Linkinhorne.	7	7	7
6300	West Polgooth (tin), St. Ewe & St. Mewen.	1	1	1
1110	West United Hills (copper), Illogan.	4	4	4
5000	West Wheal Alfred (copper), Hayle.	1	1	1
1024	West Wheal Frimington (cop.), Ludgvan.	45	45	45
4000	West Wheal Frimington (copper), Devon.	3	3	3
2048	West Wheal Rose, lead.	2	2	2
4000	West Wheal Russell, Tavistock.	3	3	3
1024	West Wheal Shuba.	10	10	10
1024	Weston (lead), Chertbury, Struphshire.	14	14	14
2300	Wheal Caradon (copper), St. Cleer.	3	3	3
256	Wheal Carpenter (tin), Gwinnar.	11	11	11
1024	Wh. Carpenter (lead & cop.) S. Sydenham.	3	3	3
1024	Wheal Catherine (silver-lead), Liskeard.	2	2	2
1024	Wheal Chiverton (lead), Perranzabulo.	31	31	31
512	Wheal Constance (copper), Gwennap.	10	10	10
1024	Wheal Cupid (copper), Gwennap.	24	24	24
8000	Wheal Dorn (tin and copper), St. Cleer.	3	3	3
4096	Wheal Edward (copper), Calstock.	3	3	3
1024	Wheal Emily (antimony and lead).	3	3	3
1024	Wheal Emma.	8	8	8
1070	Wheal Enys (tin), Wendron.	23	23	23
5000	Wheal Fanny (lead).	1	1	1
1536	Wheal Fortune (lead), Lendulph.	29	29	29
2048	Wheal Gail (tin), Liskeard.	4	4	4
2048	Wheal Hamlyn, near Oakenham.	13	13	13
2560	Wheal Harriet (copper), Camborne.	1	1	1
2048	Wheal Harris (lead), near Tavistock.	1	1	1
6000	Wheal Langford (copper and silver-lead).	3	3	3
1000	Wheal Lemon, Germoe.	4	4	4
942	Wheal May (silver-lead and copper).	3	3	3
1024	Wheal Mary Ann (copper), Bridestow.	1	1	1
1024	Wheal Mary Emma, Tavistock.	31	31	31
6144	Wheal Mandin, Emma East, Tavistock.	1	1	1
940	Wheal Oak, near Helston.	1	1	1
128	Wheal Pollard (copper), St. Cleer.	10	10	10
210	Wheal Prospect.	4	4	4
5000	Wheal Providence, South Sydenham.	4	4	4
2048	Wheal Robins.	2	2	2
5000	Wheal Russell (copper), Tavistock.	2	2	2
4000	Wheal Ruth (tin), Shepar.	2	2	2
10000	Wheal Samson, St. Teath.	1	1	1
512	Wheal Saxon (silver-lead), Lezant.	7	7	7
256	Wheal St. Agnes (tin & cop.), St. Stephens.	21	21	21
1000	Wheal Susan, Breago and Crownan.	1	1	1
1024	Wheal Sydney, Plympton.	21	21	21
2000	Wheal Tom (tin & copper), Stoke Clims.	61	61	61
1024	Wheal Trevelack (copper), Stythiam.	6	6	6
256	Wheal Tremaine (copper), St. Ervan.	11	11	11
8448	Wheal Tremane (silver-lead), St. Kew.	1	1	1
6000	Wh. Unity Consols (cop. & tin), Gwinnar.	4	4	4
4000	Wheal Victoria (copper).	1	1	1
1024	Wheal Vint (tin), Altermun.	73	73	73
512	Wheal Violet (tin and cop.), St. Stephens.	11	11	11
256	Wheal Violet.	2	2	2
4000	Wheal Williams (copper).	1	1	1
1024	Wheal Wrey (lead), St. Ives, Liskeard.	2	2	2
2048	Wood Mine (silver-lead), Beerharris.	1	1	1
2048	Yealand Consols (tin), Plymouth.	13	13	13

* Should any errors occur in the foregoing statement, we shall gladly correct them on receiving the necessary information.

Shares.	FOREIGN MINES.	Paid.	Present Price.
12000	Annotto Bay Mining Association (copper), Jamaica.....	1	5
10000	Australian (copper), South Australia.....	5	2 1/2
10000	Kingfisher Mining Association (copper), Germany.....	20	3
12000	Linguaes and General Mining Company, Jamaica.....	1	1
5000	Linares (lead), Spain.....	3	1 1/2
30000	Mexican and South American (copper), Mexico.....	4	42 1/2
5000	National Brazilian (gold), Brazil.....	30	2
04000	North British Australasian (copper), S. A. & New Zealand.....	1	3
10000	Worthing (copper), Adelaide, South Australia.....	40	2 1/2

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